Age Not Apathy: A Discussion of Use-it-or-Lose-it Voter Registration Policy During the Year 2022

By Joseph Woods

In the lead up to the 2018 gubernatorial election, then Georgia Secretary of State, Brian Kemp, led efforts to purge over 500,000 voters from the Georgia voter rolls. This action was particularly controversial given that Brian Kemp was also a candidate in the race for governor. Georgia is one of at-least nine states that utilizes controversial "use-it-or-lose-it" protocols when maintaining their rolls. The policy allows those states to purge voters who have not voted in a certain number of previous elections. For example, a Georgia voter who had not voted since the 2008 presidential election was considered inactive and eligible for the July 2017 purge that saw more than eight percent of Georgia voters wiped from the rolls. The next year, the practice was further bolstered by a 5-to-4 U.S. Supreme Court decision that upheld a controversial Ohio law that allowed the state to purge voters who had failed to return an address confirmation form and didn't vote for another four years. That case, *Husted v. A Philip Randolph Institute*, paved the way for other states to begin adopting the policy–though Georgia had adopted this policy prior to the 2018 ruling.

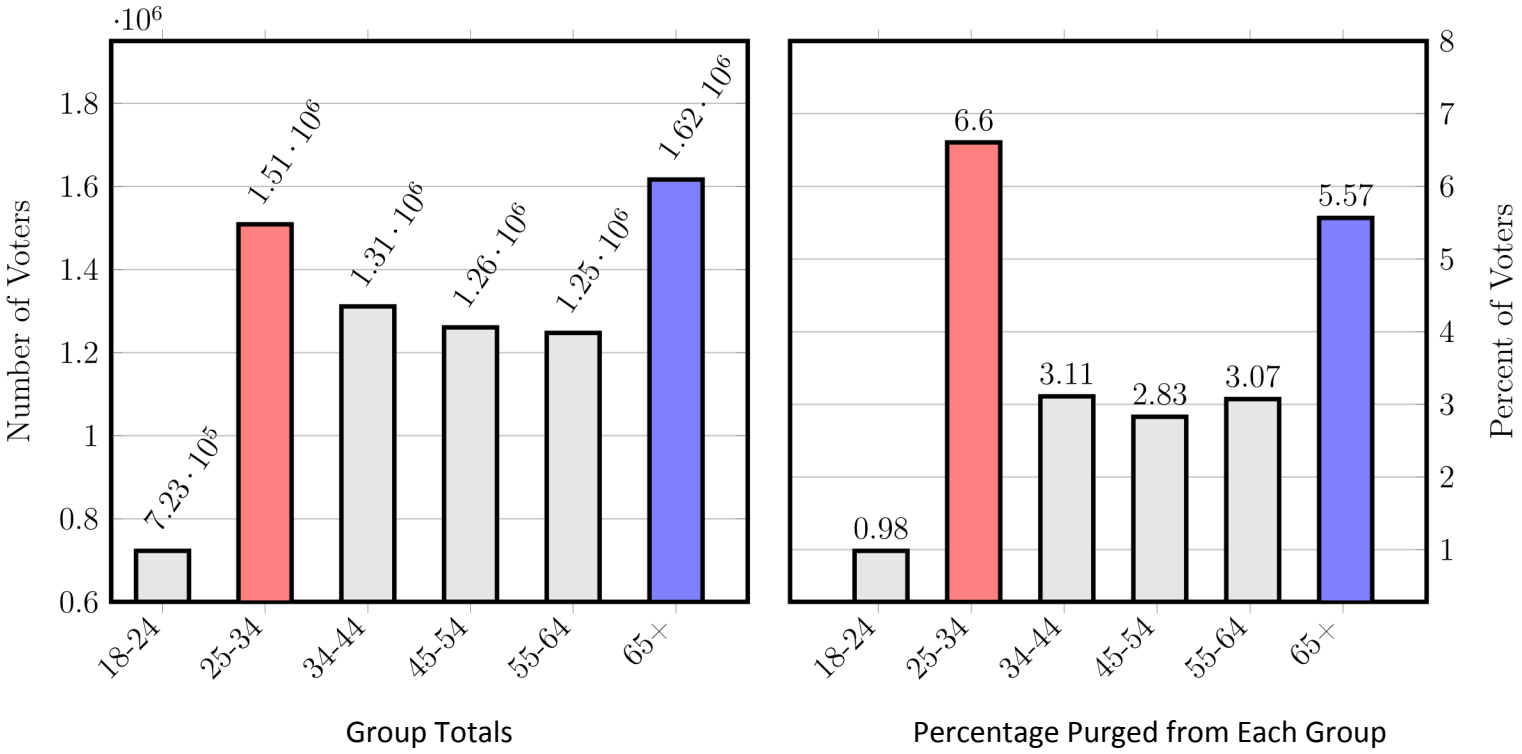
According to Georgia law, the removal process is triggered if you do not vote, respond to a mailed notice, or make contact with election officials over a three-year time period. If a voter does not vote in the next two federal election cycles, they will be removed from the rolls. In

total, the process takes seven years. The Georgia Secretary of State's Office maintains that the policy is necessary to preserve the accuracy of the rolls and prevent fraud. However, critics say that the practice dubbed "purge-by-postcard" is inherently biased.

A 2020 report by the Georgia branch of the ACLU found that Georgia's postcard notification system is particularly harmful to low-income voters, voters of color, and young voters. The policy assumes that all voters who still reside at their current address will read the notice and respond to maintain their registration. However, the US Census Bureau's Mail Response/Return Rates Assessment found that people who were 65 or older returned mail at a rate of 88.3%, whereas people in the 18-24 age group had a total return rate of only 50.7%. Furthermore, the study found that 79.3% of White householders returned mail, while Black householders returned at a rate of 65.4%. The disparity among younger voters might be attributed to the fact that younger voters are more likely to move and less likely to respond to government postcards, as it's not a method of communication that is favored by younger Americans–according to other Census studies. The following figures show the breakdown by age group of Georgia voters at the beginning of 2022.

Figure 1: Number of Voters in Age Group vs Percentage of Age Group Purged

(a) Georgia



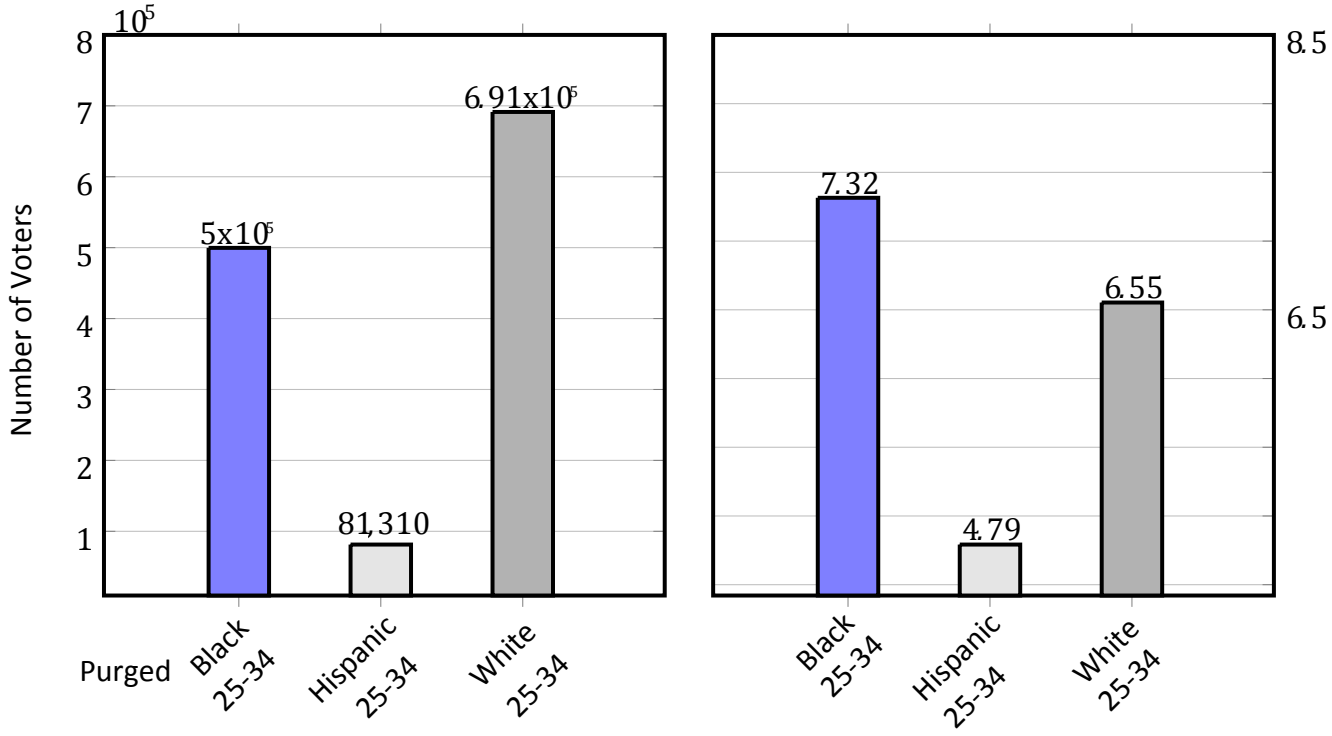
Group Totals

Percentage Purged from Each Group

At the beginning of 2022, voters who were 25-34 years old made up the second largest portion of Georgia voters (19.68%). However, this population saw the largest percentage of its voters dropped from its rolls, followed closely by the 65+ group. In general, the voters who are most regularly removed from the rolls are members of the 65+ age group, with death being the greatest contributing factor. According to the Georgia Department of Public Health, the 25-34 age group accounted for approximately 0.271% of deaths during the year, whereas approximately 67.350% of deaths were from those who were 65+. With this in mind, it is reasonable to assume that a large portion of the 25-34 voters fell victim to the purging process,

and the effects of this disparity have implications in race as well. In Georgia, Black voters represent a younger voter population, as 25-34 year-old Black voters comprise the majority of the Black electorate there. The following figures demonstrate racial breakdown of the 25-34 age group and respective purge percentage of each group.

Figure 2: Number of 25-34 Black, Hispanic, and White Voters vs Percentage of Each Group



Group Totals

Percentage Purged from Each Group

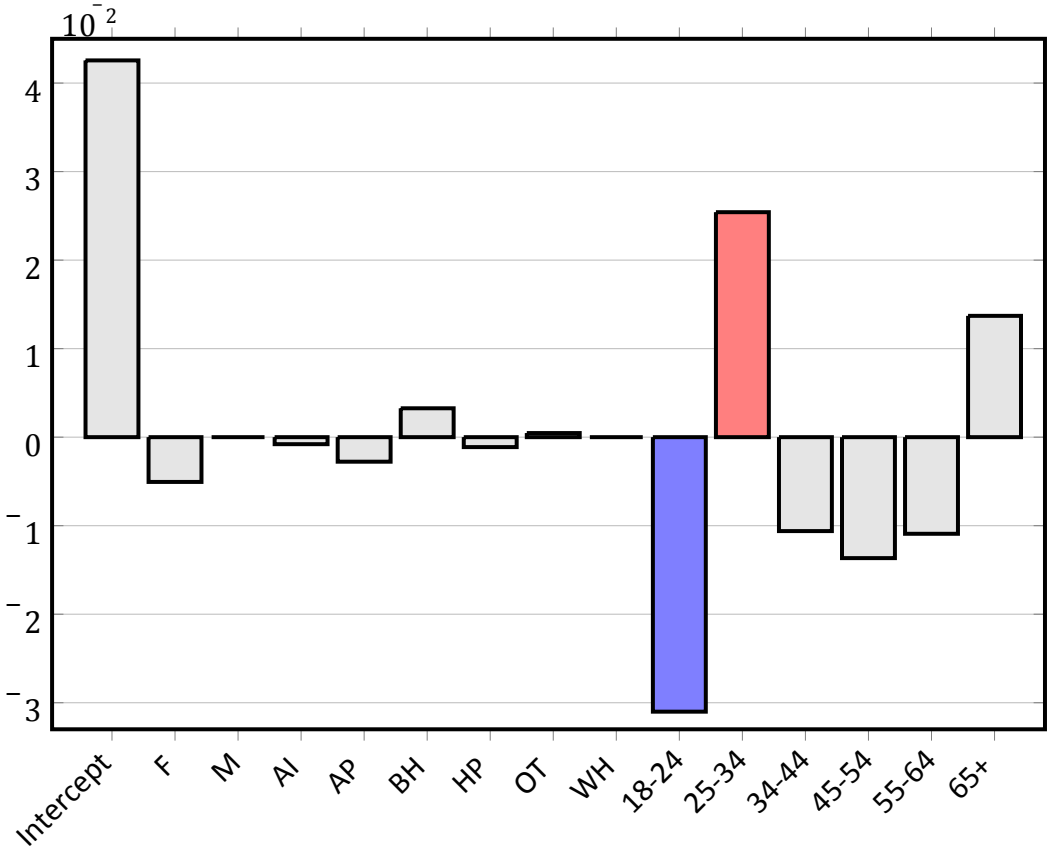
Not only did Black voters have the highest purge percentage from the 25-34 age group, they had the highest of any combination of race and age. While Georgia does not provide political

party affiliation data in their voter lists, we can glean some effects that the 2022 purges would have on party breakdown within the electorate. According to a 2014 Pew Research Center study, 24% of 18-29 year-old Georgia voters leaned Democrat and 30% reported no lean at all. Only 19% leaned Republican. Of Black voters, 51% said they leaned Democrat, 24% said they had no lean, and only 9% reported a Republican lean.

1 Demographic Influence in Purging

To further understand the relationship between demographics and purging in Georgia, a linear modeling technique called lasso regression was performed. The following figures represent the lasso coefficients that were computed with a penalization term, λ, that optimizes the trade-off between the bias and the variance. Plainly, this is the λ value that results in the most accurate model.

Georgia Lasso Coefficients



Coefficient Categories

Intc.	F	M	AI	AP
0.04256	-0.00506	0	-0.00079	-0.00277

BH	HP	OT	WH	18-24
0.00326	-0.00112	0.00046	0	-0.03100

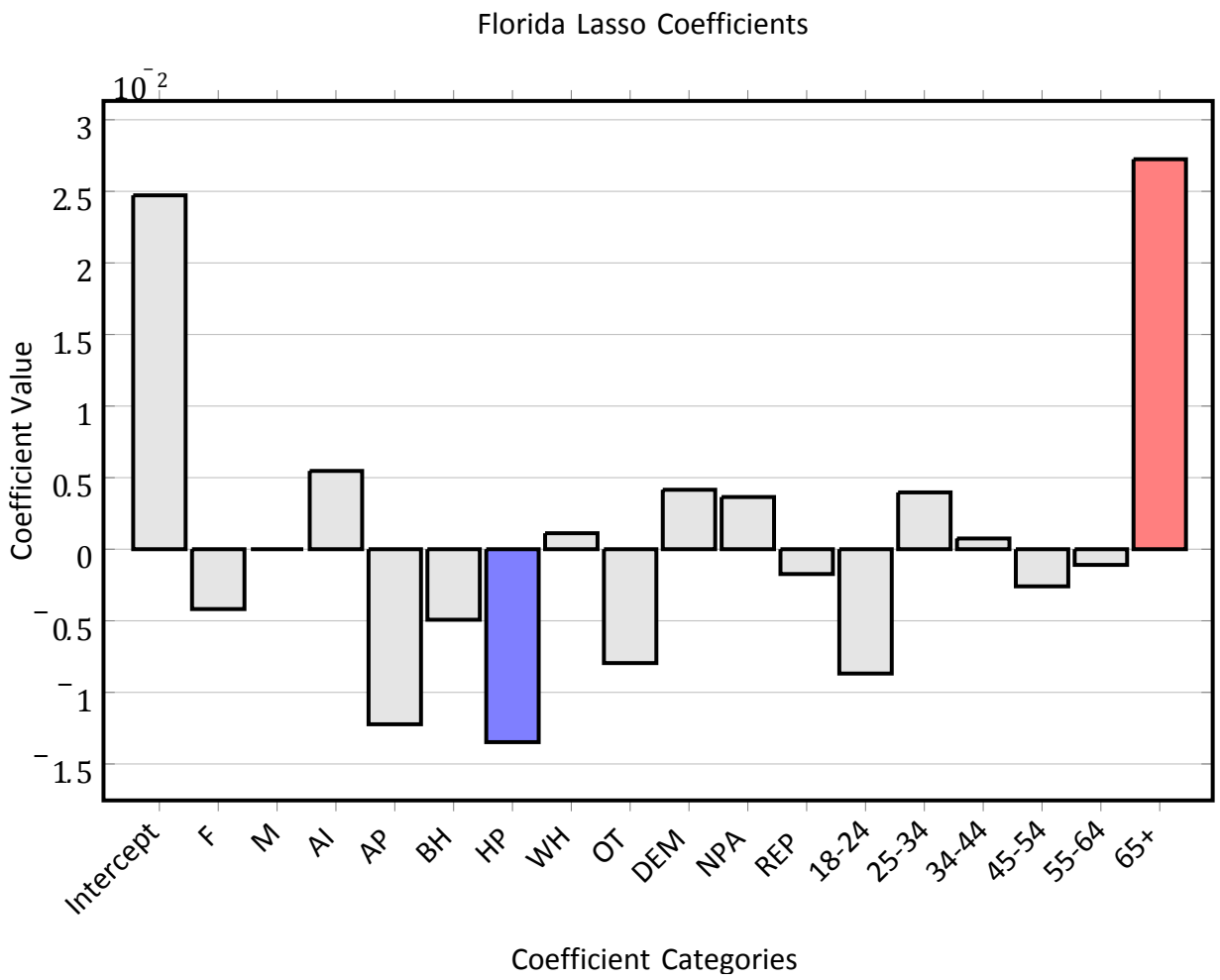
25-34	34-44	45-54	55-64	65+
0.02541	-0.01061	-0.01366	-0.010914	0.01370

The lasso regression found that the category most positively related with being purged was the 25-34 age group. This finding supports the speculation that Georgia's "use-it-orlose-it" purge policy is disproportionately effecting younger voters. In turn, Black voters, comprising a younger demographic, also saw a positive correlation with being purged.

Conversely, the category most negatively related was the 18-24 age group. This finding further suggests that Georgia is relying heavily on this policy to conduct its list maintenance. Given that the process takes seven full years at minimum, a voter who registered at the age of 18 would not be affected until they were at least 25 years-old.

It is important to mention here that had the data been modeled as a linear model, the essential result that the probability of being purged as a function of age exhibits a U-shape would not have been apparent. Feature selection as well as the introduction of non-linearity in the form of polynomial or interaction terms allows lasso regression to capture non-linear relationships between the predictor and response variables.

To further investigate the effects of "use-it-or-lose-it" policy on voter purges, the same analysis was performed for Florida and Colorado voters. Though these states have also been the subject of their own controversies around voter purges, neither of them share the same strict policy procedure as Georgia. Florida has no such policy at all, and Colorado has a similar policy but with many more protections for voters. The following figure and table show the lasso regression results for the state of Florida.



Intc.	F	M	AI	AP	BH
0.02472	-0.00418	0	0.00547	-0.12228	-0.00493

HP	WH	OT	DEM	NPA	REP
-0.01348	0.00112	-0.00795	0.00415	0.00365	-0.00173

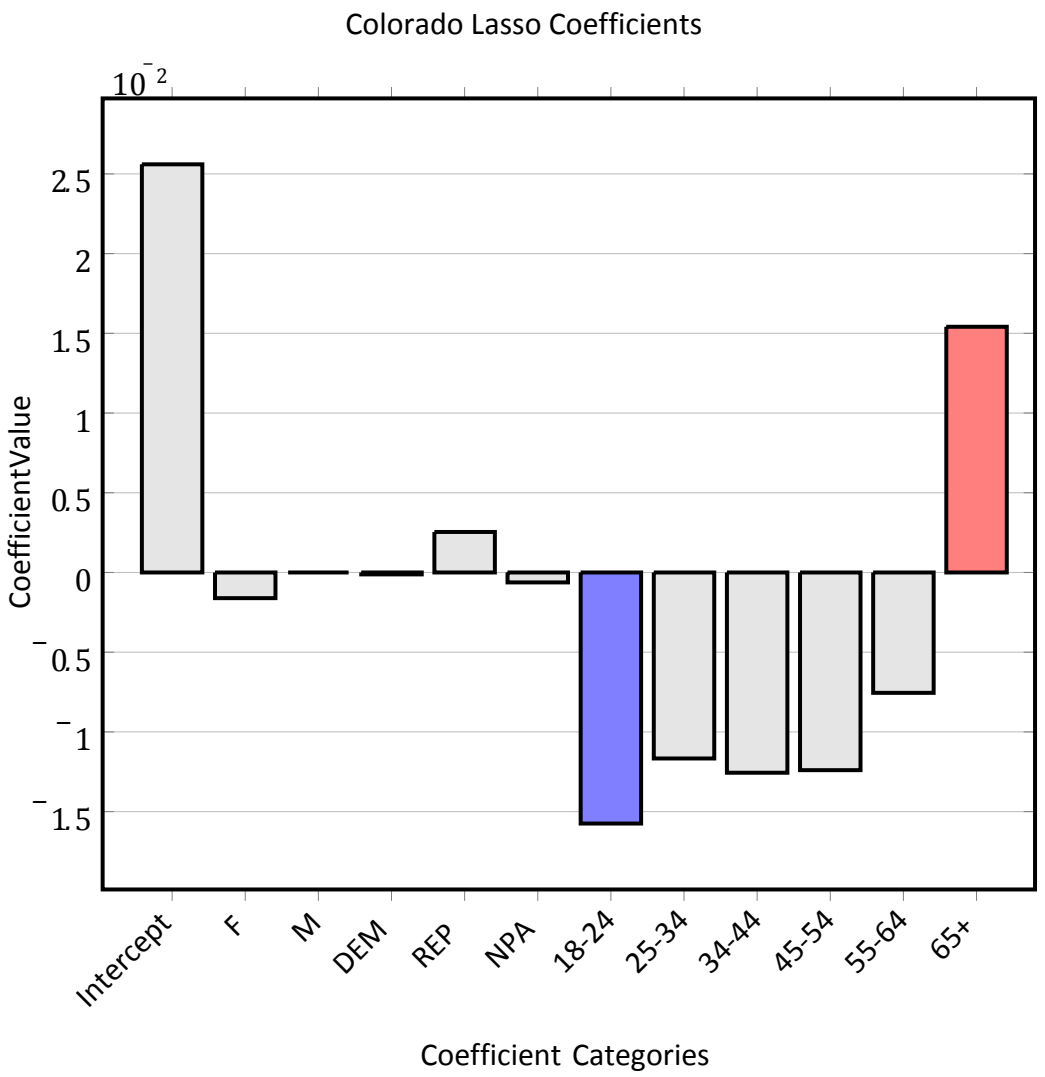
18-24	25-34	34-44	45-54	55-64	65+
-0.00868	0.00397	0.00075	-0.00259	-0.00109	0.02724

It is worth noting that the population of 65+ voters in Florida is nearly twice the size of any other age group at approximately 4.6 million. Like most other states, Florida uses government databases like the National Change of Address system from the U.S. Postal service to maintain their rolls. Still, the regression analysis showed a positive relationship between 25-34 voters and purging, though not nearly as stark as that of Georgia. Since Florida law doesn't allow purging based on voting history, the reason for this association is more difficult to discern. The most likely reasons would be that these voters either left the state or moved within the state and hadn't yet moved their registration. Even if a voter had moved within the state and just hadn't changed their registration yet, they would still be susceptible to purging if they filed a change of address for their mail.

Interestingly, the Florida group most negatively related with purging were the Hispanic voters. From 2016 to August 2022, the Hispanic voter base in Florida grew by more than 500,000 amidst a Hispanic population boom that continues to this day. According to the U.S. census, the Hispanic or Latino population in Florida grew by 34.9% between the 2010 and the 2020 census, while the population of those who do not identify as Hispanic or Latino only grew 8.7%. Furthermore, I found through exploratory analysis that Hispanic Floridians had a 4% net increase in voters during 2022—second only to Asian voters at 5.4% . However, to put that into context, there are eight times as many Hispanic voters as there are Asian voters. Given the overall population and voter population growth in a relatively small amount of time, the low purge probability is a reasonable expectation.

In terms of party affiliation, the regression analysis found a positive relationship with Democratic voters and a negative relationship with Republicans. At first glance, one might assume the reason for this discrepancy has political undertones. Whether or not this is true would be difficult to determine categorically, as voter list maintenance is carried out by county election officials rather than the state government. What is known, however, is that the growth of Republican voters has far outpaced Democratic growth. According to the Florida Division of Elections, the number of Republican voters surpassed the long-held Democratic majority during 2021, and Democrats have seen a steady decline since. Exploratory analysis found that there were still more registered Democrats than Republicans during January 2022 by a small margin. However, this was around the beginning of the growing Republican majority, and the totals for each party fluctuated as the switch occurred.

Next, we turn to a state that, like Georgia, does have what could be considered a "useit-or-lose-it" policy. However, unlike the previous two states, it is considered a budding Democratic stronghold. The following figures represent the lasso regression analysis of voter purging in Colorado during the year 2022.



Intc.	F	M	DEM	REP	NPA
0.02560	-0.00161	0	0	0.00254	-0.00062

18-24	25-34	34-44	45-54	55-64	65+
-0.01575	-0.01167	-0.01257	-0.01240	-0.00755	0.0154114

As with Florida, the group with the greatest positive relationship to purging is the 65+ voters. In terms of party, the results for Colorado are a direct contrast to Florida in that Colorado Republicans have a slightly positive relationship to purging, though being a Democrat had no bearings on purging in the model. Like Florida, voter list maintenance is handled by county officials rather than the state, so discovering nefarious practices becomes much more difficult as procedures are varied over 64 county offices.

Colorado, along with a handful of other states, is unique in that the majority of voters are unaffiliated, meaning those voters have no official party relationship. In recent years, the unaffiliated group has been growing at a much faster rate than individual parties. In fact, exploratory analysis revealed that there were nearly twice as many unaffiliated voters as there were Democrats and Republicans at the start of 2022. Since Colorado has semi-open primaries that allow voters to participate in the primary of their choice, this makes the unaffiliated group of critical importance to winning elections in the state. As of now, Colorado is quickly becoming a Democratic stronghold. Though the state has a varied election history, voters have favored Democrats in the last two presidential elections, elected two Democratic senators, and have placed Democratic trifecta in the state government. Because of this, the Colorado state government has taken a more liberal approach to legislation and policy.

This can be seen through their voting laws, despite also having a policy similar to that of Georgia's.

In the regression analysis, note that all age groups below 65+ have a negative relationship with purging. Like Georgia, Colorado has a policy that allows voters to be pulled from the rolls if

they did not respond to a notice and didn't vote within a prescribed number of years. In Georgia, the process takes seven years. In Colorado, it takes eight. However, there are a few key differences that drastically change how these policies effect voters. Firstly, Colorado has universal mail-in voting. This policy means that all active voters are sent a ballot in the mail automatically without having to request one. This allows voters more opportunity to vote in an election and avoid being placed on the inactive voter list. Secondly, Colorado allows same day voter registration during the early voting period. A voter who is considered inactive or not registered may show up to the early voting location during this period and register at the same time. Georgia does not have this policy, and voters must register at least 29 days before the election date. While Georgia does have an early voting period, voters who did not register prior to the deadline wouldn't be eligible to vote during that cycle. Lastly, the Colorado purge process begins after a voter hasn't cast a ballot in four years, or two federal election cycles. After that, a voter is consider inactive for four more years unless they update their information or vote. In Georgia, the inactive status begins after three years. Although there is only a one year difference, this can have a major effect on the process. Since federal elections occur every two years, this means that Georgia voters will only have three election cycles before their registration is removed. If the voter is unaware of the removal, they may show up to vote during the next cycle but won't be able to cast a ballot. Colorado's eight year timeline allows voters four chances to maintain their registration. The seven year timeline can be especially harmful if the process begins during a presidential election year because voters are statistically more likely to turnout for a presidential election. If the purge process began on a presidential

election year, the first election after a Georgia voter had been purged would also be a presidential election.

2 Relative Risk for Age Groups

The results of the lasso model pointed to age group having the most predictive influence overall in the likelihood of purging. Using the exploratory analysis results for each state, the relative risk (RR) and the standard error of the log of the RR were calculated for each age group using the following formulas:

	Exposed Age Group	Unexposed Age Group
Purged	a	c
Not Purged	b	d

The relative risk tells us how much more likely a voter of a certain age group is to be purged from the rolls when compared to voters of the other age groups. For example, if the relative risk is 1.5, this means that the group is 1.5 times more likely to be purged than all other groups. The following are the results for each state and age group:

Figure 3: Georgia: Relative Risk and Log Standard Error

Age Group	Relative Risk (RR)	$\ln(\mathbf{RR})$	$SE_{\ln(\mathbf{RR})}$
18-24	0.22452	-1.49379	0.01193
25-34	1.71622	0.54012	0.00373
35-44	0.73009	-0.31459	0.00522
45-54	0.65710	-0.41992	0.00554
55-64	0.72223	-0.32541	0.00537
65+	1.52107	0.41941	0.00385

Figure 4: Florida: Relative Risk and Standard Error

Age Group	Relative Risk (RR)	$\ln(\mathbf{RR})$	$SE_{\ln(\mathbf{RR})}$
18-24	0.42815	-0.84828	0.00845
25-34	0.84968	-0.16290	0.00428
35-44	0.72875	-0.31642	0.00464
45-54	0.60230	-0.50610	0.00507
55-64	0.66506	-0.40788	0.00451
65+	2.31567	0.83970	0.00294

Figure 5: Colorado: Relative Risk and Standard Error

Age Group	Relative Risk (RR)	$\ln(\mathbf{RR})$	$SE_{\ln(\mathbf{RR})}$
18-24	0.44743	-0.80424	0.01723
25-34	0.62674	-0.46722	0.01011
35-44	0.59502	-0.51916	0.01077
45-54	0.62102	-0.47639	0.01156
55-64	0.89750	-0.10814	0.01001
65+	3.04483	1.11345	0.00690

A relative risk that is > 1 indicates an increased risk of being purged. Other than the 65+ groups, only the 25-34 group in Georgia saw an increased risk of purging. In fact, the risk of this group being purged in that state was higher than that of the 65+ group, at 1.71622 times the

risk of voters in any other age group. The standard error of the log at ≈ 0.00373 indicates that this result is significant since the confidence interval 0.54012 ± 0.00373 excludes zero ($\ln(1)$). However, it is worth mentioning here that the extremely large sample size virtually guarantees statistical significance in testing—as is shown though the fact that all of the relative risk calculations were found to be significant.

3 Discussion

The purpose of this analysis was to assess what effects a "use-it-or-lose-it" voting policy has on a state's electorate, in comparison to states that either don't have such a policy or who have more passive implementations—passive in this context meaning that the state provides other methods of supporting voters in maintaining their registrations or by providing more time for voters to exercise the right. As we saw with Georgia, the demographic group most positively correlated with purging was the 25-34 group. This group is not the largest age group in that state, yet they also saw the largest amount of their ranks purged from the rolls. In exploratory analysis, it was also discovered that this group contains more inactive voters than any other. For those voters, the process has already begun. If they choose not to vote in the next two election cycles, they will also be removed from the rolls. Other than the "use-it-or-lose-it" removal practice, there is little else to explain such a disparity. In Florida, voters in this group saw only a minor relationship between their age and being purged—not enough to say that their age was a primary factor in the process. In Colorado, a state that implements a similar policy to the one used in Georgia, voters in this group were not at a higher risk of being purged. This could be because Colorado, in contrast to Georgia, provides more resources and opportunities for voters of all ages to engage in the process and exercise their constitutional right. Currently, at least nine states use this practice to maintain their rolls. Whether or not their respective policies are effecting young voters in the manner that Georgia's has would require further study. However,

given the 2018 U.S. Supreme Court decision that upheld the constitutionality of the "use-it-or-lose-it" policy, it is unlikely that these states will change their methods any time soon.

4 Appendix: Purging by the Numbers

The following figures were the result the initial exploratory analysis. They show the breakdown of the voter files in terms of the qualifiers that were used in this study. The entries in the tables are listed as the abbreviations that were used in the lasso regression. The codes correspond to the following:

Gender	**Party**	**Race**
M: Male	REP: Republican	AI: American Indian
F: Female	DEM: Democrat	API: Asian and Pacific Islander
O: Other Gender	NPA: Non Party Affiliated	BLK: Black
		HSP: Hispanic
		OT: Other Race
		WHT: White

4.1 **Georgia**

Age Group	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
18-24	722977	7115	170043	0.9841254 %	162928
25-34	1509514	99648	67481	6.6013300 %	-32167
35-44	1311272	40776	53212	3.1096523 %	12436
45-54	1260820	35670	37708	2.8291112 %	2038
55-64	1247486	38336	31165	3.0730605 %	-7171
65+	1616273	89996	29992	5.5681188 %	-60004
Gender	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
M	3579359	154006	193943	4.302614 %	39937
F	4071565	156715	156715	3.849011 %	37568
O	17428	821	2034	4.710810 %	1213
Race	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
AI	25019	903	6758	3.609257 %	5855
API	204214	7036	17625	3.445405 %	10589
BLK	2278323	94833	121500	4.162404 %	26667
HSP	287733	10135	30857	3.522363 %	20722
OT	152091	5931	8938	3.899639 %	3007
WHT	4011465	159097	161992	3.966057 %	2895

4.2 **Florida**

Age Group	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
18-24	1084887	14267	230347	1.1315068 %	216080
25-34	2401423	61577	118314	2.564188 %	56737
35-44	2289340	51246	102256	2.238462 %	5100
45-54	2235004	42122	91545	1.884650 %	49423
55-64	2607347	54704	107129	2.098071 %	52425
65+	4589882	224140	113398	4.883350 %	-110742
Party	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
REP	5360911	156065	276807	2.911166 %	120742
DEM	5432310	165591	168902	3.048261 %	3311
NPA	205285	3812	10417	1.856931 %	6335
Gender	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
M	6877625	214016	356369	3.111772 %	142353
F	7900786	217268	364477	2.749954 %	147209
O	426179	11916	32909	2.796008 %	20993
Race	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
AI	47792	1790	2033	3.745397 %	243
API	320901	5633	23047	1.755370 %	17414
BLK	2072292	53981	83156	2.604894 %	29175
HSP	2678258	43776	153158	1.634495 %	109382
OT	281027	11943	39987	2.662520 %	28044
WHT	9272032	317305	428719	3.422173 %	111414

4.3 **Colorado**

Age Group	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
18-24	377492	3485	97912	0.9231984 %	94427

25-34	840058	11158	71025	1.3282416 %	59867
35-44	765626	9646	34439	1.2598841 %	24793
45-54	634282	8193	20039	1.2916968 %	11846
55-64	636246	11372	17394	1.7873590 %	6022
65+	929974	38165	17615	4.1038782 %	-20550
Gender	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
M	2034753	40913	130091	2.010711 %	89178
F	2093495	39903	121312	1.906047 %	81409
O	55431	1204	7295	2.172070 %	6091
Party	2022 Totals	Purged	New	Percentage Purged	Net Gain/Loss
REP	1061032	25939	25550	2.44695 %	-389
DEM	1192891	23885	40040	2.002278 %	16155
NPA	1848899	30809	188386	1.666343 %	157577

5 Appendix: Lasso Regression

Lasso Regression is an altered approach to linear regression, which models the relationship between a response variable and predictor variables. In linear regression, a model is not penalized for the choice of weights. This means that if the model feels that one variable is more important, the model may give a large weight (more importance) to the variable. On the other hand, lasso regression (L1 Regularization) modifies linear regression such that the model is penalized for the sum of the absolute values of the weights. This leads to the absolute values of the weights to be reduced, with some tending toward zero. This process is referred to as regularization. In simpler terms, lasso regression introduces a small amount of bias into the model so that the variance can be reduced. This trade-off results in a reduction of the mean squared error (MSE)—a metric that can be used to measure the accuracy of the model. Other

regularization methods like Ridge Regression (L2) accomplish a similar goal but differ in the treatment of the weights. For example, lasso regression may drive less important weights to zero, removing them from the model. On the other hand, Ridge regression does not put emphasis on forcing out unimportant variables and usually results in smaller, more well-distributed weights. Essentially, lasso regression assumes that not all of the predictors are important, whereas Ridge assumes that all predictors are relevant to some degree. lasso was chosen for modeling the voter data because of the assumption that not all of the demographic categories are relevant to the likelihood of being purged.