

September 6, 2018

College Democrats at the University of Michigan, et al. v. Johnson, et al.

United States District Court for the Eastern District of Michigan

Expert Report of Jonathan Rodden, PhD

**737 Mayfield Avenue
Stanford, CA 94305**

A handwritten signature in black ink, appearing to read 'J. Rodden', is positioned above a horizontal line.

Jonathan Rodden, PhD

I. INTRODUCTION AND SUMMARY

One of the most important impediments to voting in the United States is residential mobility. When individuals move—even a very short distance to a new apartment—they must change their voter registration to a new address. Each residential address is connected to a series of wards, districts, and towns, and election administrators must provide each voter with a ballot that displays exactly the right mixture of school board, county commissioner, and state legislative candidates. Thus, one's ability to vote, and have one's vote counted, depends on navigating a process of registering in the correct location and, if voting in person, finding the correct polling place.

This is all quite straightforward for a middle-aged home-owner living at the same address for decades. In contrast, for people who move often, voting can require frequent and active engagement with a multi-layered bureaucracy of city, county, and state officials. There is considerable variation across states and localities in the processes of registration, re-registration, and election-day address verification, and these have important implications for rates of registration and turnout. Such laws and practices can be especially important for registration and

turnout rates among young voters who are more likely to change their residential addresses frequently. One of the most affected groups is college students, many of whom change their addresses every year.

I have been asked by plaintiffs' counsel to examine the implications of two unusual aspects of Michigan's system of election administration. First, Michigan Public Act 118 of 1999 specifies that anyone who wishes to register to vote at their current residential address, even if that address is a one-year dormitory or campus apartment, must change the permanent address on their driver's license or state identification card. This could deter college students from registering to vote at their campus address or changing their registration address to their campus address, since they know they will move repeatedly, and they or their parents may believe it to be advantageous to maintain an address in their hometown.

One solution to this dilemma might be to maintain one's family home address for voter registration purposes and, instead of skipping classes to travel home on election day, cast an absentee ballot. However, absentee balloting is not allowed in Michigan for new registrants if their registration was submitted by mail or through a third-party registration drive. In other words, first-time voters must vote in person unless they registered to vote at a Secretary of State branch office, Clerk's offices, or a public assistance agency. Since Michigan is one of the few states

that does not allow online registration, registration by mail and third-party voter registration drives are perhaps the most convenient registration options for young first-time registrants. Moreover, Michigan is one of only 13 states that has neither early voting nor a system of “no-excuse” absentee voting.¹

A possible combined effect of these two laws is that young voting-eligible individuals in Michigan will be deterred from registering to vote or updating their voter registration address upon moving to college, but then on election day, be unable to make it to the correct polling place that is associated with a faraway “home” address, and be unable to vote early or absentee. Alternatively, young people might simply register at lower rates in the first place due to this dilemma.

This report assesses the possibility that these two laws act in concert to reduce registration and voting rates among young Michiganders in general, and college students in particular. First, I examine the registration and voting rates of young people in Michigan relative to the rest of Michigan’s voting-age population, and relative to other states. Second, I use data at the level of counties, census places, and precincts to explore whether young people—especially those who are concentrated on and around college campuses—exhibit lower rates of registration

¹ <http://www.ncsl.org/research/elections-and-campaigns/absentee-and-early-voting.aspx>

and turnout than older Michiganders. Third, I examine the evolution of relative registration and voting rates among young people over time, and I examine whether the promulgation of the 1999 law requiring a single address for the driver's license and voter registration had a discernable impact on registration and voting among affected clusters of young people. Finally, I examine whether the use of absentee balloting is less common among young people.

My findings can be summarized as follow:

1. Voting-age citizens between the age of 18 and 24 vote at very low rates in Michigan. In fact, the difference between overall turnout and youth turnout is now larger in Michigan than in any other state.
2. Michigan's "youth turnout gap" had been lower than the national average before the promulgation of Public Act 118, but it surpassed the national average immediately thereafter, and has grown in subsequent elections.
3. Electoral participation and registration rates are extremely low in the vicinity of Michigan's colleges and universities.
4. Since the implementation of Public Act 118, registration rates have grown more slowly in counties with large youth populations—especially those with universities—than in other counties. In fact, in the decade since the law was introduced, registration rates have fallen over time or stagnated in several

college counties while increasing in most of the rest of the state. The largest registration decline in the state was in Ingham County, home to Michigan State University.

5. Within counties, college towns experienced declining electoral participation relative to their surrounding communities in the elections since Public Act 118 came into effect.
6. Precinct-level analysis of registration and voting before and after the 1999 reform reveals a large initial impact on registration and voting in college areas— one that has persisted or even increased over time.
7. Young voters do not make up for their low rates of residence-based registration and in-person voting by casting absentee ballots at higher rates. On the contrary, as encouraged by Michigan's election laws and practices, absentee voting is infrequently used by young voters, and used extensively by Michigan voters over the age of 60.
8. Young people are disproportionately affected by the law requiring new registrants to vote in-person if their registration was by mail or through a third-party registration drive because they are likely to register through those means and they are much more likely to be first-time voters. Absentee voting is especially rare among young new registrants.

II. QUALIFICATIONS

I am currently a tenured Professor of Political Science at Stanford University and the founder and director of the Stanford Spatial Social Science Lab (“the Lab”)—a center for research and teaching with a focus on the analysis of geo-spatial data in the social sciences. Students and faculty members affiliated with the Lab are engaged in a variety of research projects involving large, fine-grained geo-spatial data sets including individual records of registered voters, Census data, survey responses, and election results at the level of polling places. Prior to my employment at Stanford, I was the Ford Professor of Political Science at the Massachusetts Institute of Technology. I received my Ph.D. from Yale University and my B.A. from the University of Michigan, Ann Arbor, both in political science. A copy of my current C.V. is included as Appendix A.

In my current academic work, I conduct research on the relationship between the geographic location of demographic and partisan groups, the drawing of electoral districts, and patterns of political representation. I have published papers using statistical methods to assess political geography and representation in a variety of academic journals including *Proceedings of the National Academy of*

Science, *American Economic Review Papers and Proceedings*, the *Journal of Economic Perspectives*, the *Virginia Law Review*, the *American Journal of Political Science*, the *British Journal of Political Science*, the *Annual Review of Political Science*, and the *Journal of Politics*. One of these papers was recently selected by the American Political Science Association as the winner of the Michael Wallerstein Award for the best paper on political economy published in the last year.

I have recently written a series of papers, along with my co-author, Jowei Chen, using automated redistricting algorithms to assess partisan gerrymandering. This work has been published in the *Quarterly Journal of Political Science* and *Election Law Journal*, and it has been featured in more popular publications like the *Wall Street Journal*, the *New York Times*, and *Boston Review*. I am currently writing a book, to be published by *Basic Books* in 2019, on the relationship between political districts, the residential geography of social groups, and their political representation in the United States and other countries that use winner-take-all electoral districts.

I have expertise in the use of large data sets and geographic information systems (GIS), and do research and teaching in the area of applied statistics. My PhD students frequently take academic and private sector jobs as statisticians and data scientists. I frequently work with geo-coded voter files and other large

administrative data sets, including in a recent paper published in the *Annals of Internal Medicine*. I have developed a national data set of geo-coded precinct-level election results that has been used extensively in policy-oriented research related to redistricting and representation,² as well as with Census data from the United States and other countries.

I have been accepted and testified as an expert witness in six recent election law cases: *Romo v. Detzner*, No. 2012-CA-000412 (Fla. Cir. Ct. 2012); *Mo. State Conference of the NAACP v. Ferguson-Florissant Sch. Dist.*, No. 4:2014-CV-02077 (E.D. Mo. 2014); *Lee v. Va. State Bd. of Elections*, No. 3:15-CV-00357 (E.D. Va. 2015); *Arizona Democratic Party, et al. v. Michele Reagan, et al.* (No. 16-1065-PHX-DLR); *Bethune-Hill v. Virginia State Board of Elections*; and the *League of Women Voters of Florida v. Detzner* (No. 4:18-cv-002510). I also worked with a coalition of academics to file an Amicus Brief in *Gill v. Whitford*. Much of the testimony in these cases had to do with geography and election administration. I am being compensated at the rate of \$500/hour for my work in this case.

² The dataset can be downloaded at <http://projects.iq.harvard.edu/eda/home>. The data can be visualized in an interactive web map, available at <http://atlas.esri.com/Atlas/VoterAtlas.html>.

III. DATA SOURCES

This report draws on data from a number of sources. First, I use data on voting and registration assembled by the United States Census Department in its November Current Population Survey (CPS) Voting and Registration Supplements from 1996 to 2016. Second, I use data on population by age and residential status at the level of census blocks, counties, and census places from the United States decennial census. These data are disseminated by the National Historical GIS (nhgis.org), which also provides associated geo-spatial boundaries. From the same source, I also assembled geo-spatial boundaries of vote tabulation districts (precincts) submitted by the state of Michigan to the United States Census Department in 2000 and 2010.

I consulted precinct-level election results from the Michigan Secretary of State from 1998 to 2014, as well as election results compiled by several county and city governments and published on their web pages. I also consulted historical precinct boundary maps and descriptions of precinct boundaries published by county and city governments on their web pages.

I also consulted reports by a group of researchers at Tufts University on student voting behavior at various universities. This research project is called the National Study of Learning, Voting, and Engagement (NSLIVE), and I consulted reports on the University of Michigan, Ann Arbor, and the University of Minnesota. Additionally, I consulted data from the Michigan Department of Education on college attendance among students graduating from Michigan high schools.

Finally, I consulted a recent individual-level Michigan voter file, and a corresponding vote history file, that I received from counsel. I understand that these files comprise of raw data obtained from the Michigan Secretary of State's office through a public records request.

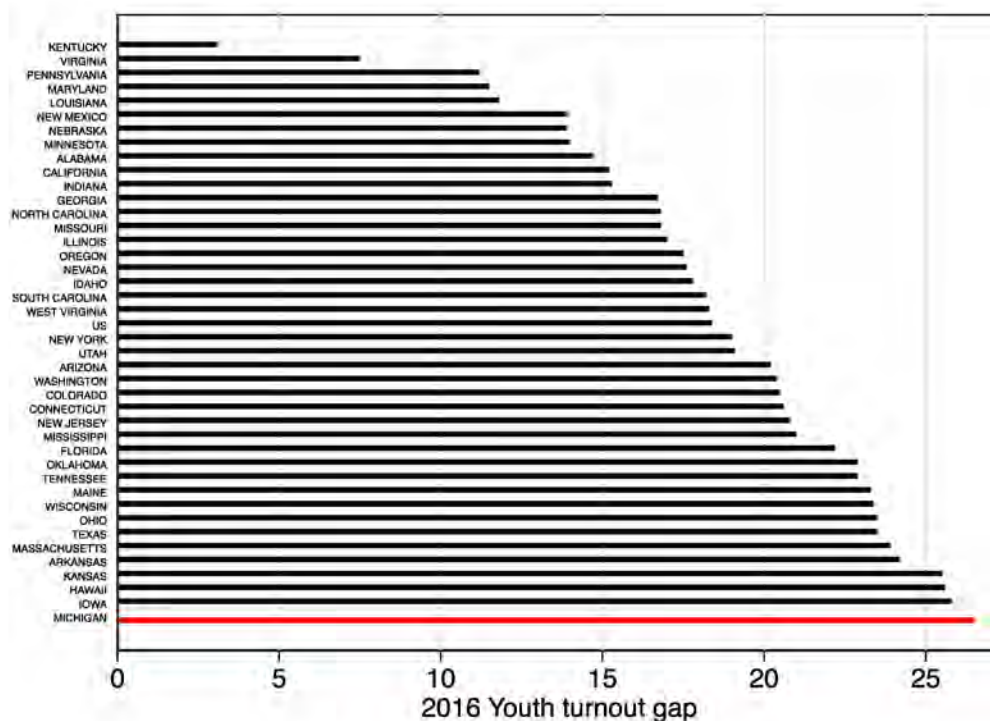
IV. AGE AND VOTING: MICHIGAN IN COMPARATIVE PERSPECTIVE

Young people have participated in elections at lower rates than the rest of the American population for decades.³ The United States Census Bureau collects data on registration and turnout in the November supplement to the Current Population Survey after each presidential and mid-term election. The Census

³ United States Census Bureau, *Young Adult Voting: An Analysis of Presidential Elections, 1964-2012*, (Washington, D.C: U.S. Department of Commerce).

Bureau estimates that 61.4 percent of voting-age citizens participated in the November 2014 general election. But the estimate for those between the age of 18 and 24 is only 43 percent. Let us refer to the difference between overall citizen turnout and the turnout among young citizens as the “youth turnout gap.” In 2016, the gap was 18.4 percentage points for the United States as a whole. But in the state of Michigan, the youth turnout gap was far higher: 26.5 percentage points. Overall turnout in Michigan was estimated at 64.3 percent, but turnout among the 18 to 24 population was only 37.8 percent.

Figure 1: State-by-state youth turnout gap, November 2016 election



In fact, Michigan's youth turnout gap in 2016 was quite extraordinary. Figure 1 displays the turnout gap for each state with a sufficiently large survey sample for the CPS to provide age breakdowns, demonstrating that the youth turnout gap in Michigan was higher than that of any other state.

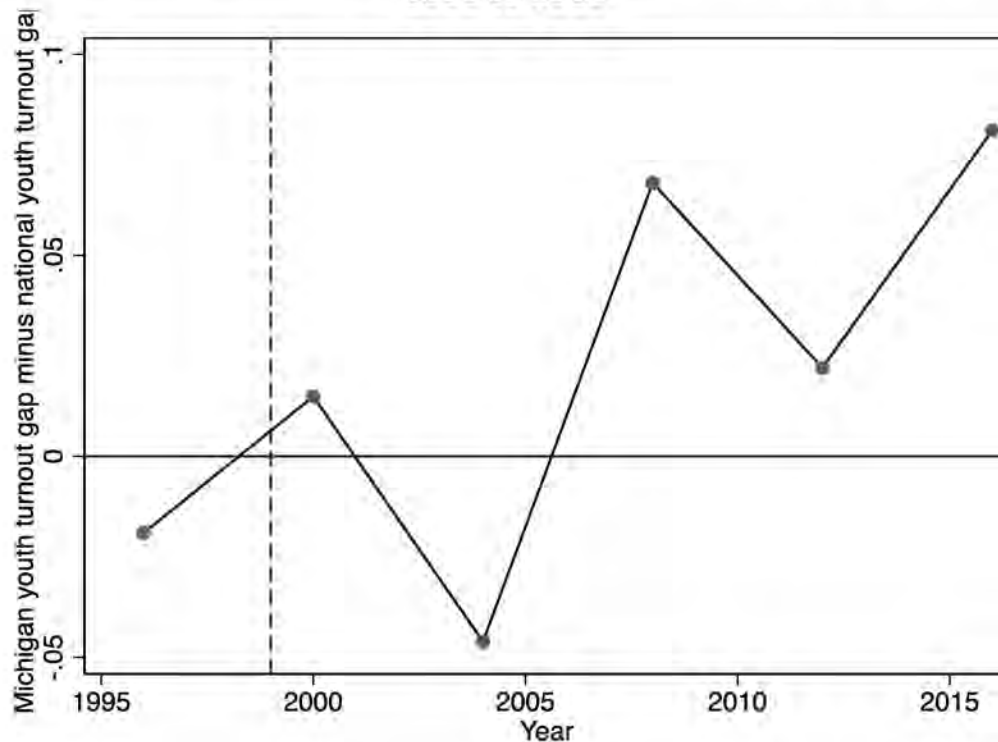
Michigan does not have an unusually low level of youth *registration*. According to the CPS, around 55.7 percent of U.S. citizens between the ages of 18 and 24 in Michigan were registered to vote in 2016. While this is a very low number, it is right around the overall national estimate of 55.4 percent. Michigan stands out for its relatively low *turnout* among young people.

Michigan has not always been a laggard in relative youth turnout. State-by-state reports of turnout among citizens by age are available since 1996—allowing us to examine one presidential election prior to Michigan's implementation of its policy of requiring a single address for the driver's license and voter registration. In 1996, Michigan's youth turnout gap was actually below the national average. Michigan's turnout gap in that year was 20.9 percent, while in the United States as a whole it was 22.8 percent. But by 2000, after the enactment of Public Act 118, Michigan's youth turnout gap had risen to almost 25 percent, while the national average was 23 percent. With one exception, Michigan's youth turnout gap has been larger than the national youth turnout gap in every subsequent presidential

election, and Michigan has been pulling further away from the national average over time.

Figure 2 demonstrates this by plotting the difference between Michigan's youth turnout gap and the national youth turnout gap for each presidential election from 1996 to 2016.

Figure 2: Michigan youth turnout gap relative to national youth turnout gap, 1996 to 2016



While the trend has not been smooth, Michigan's turnout gap has been trending upward relative to the national average since 1996, and by 2016, it has surpassed all other states.

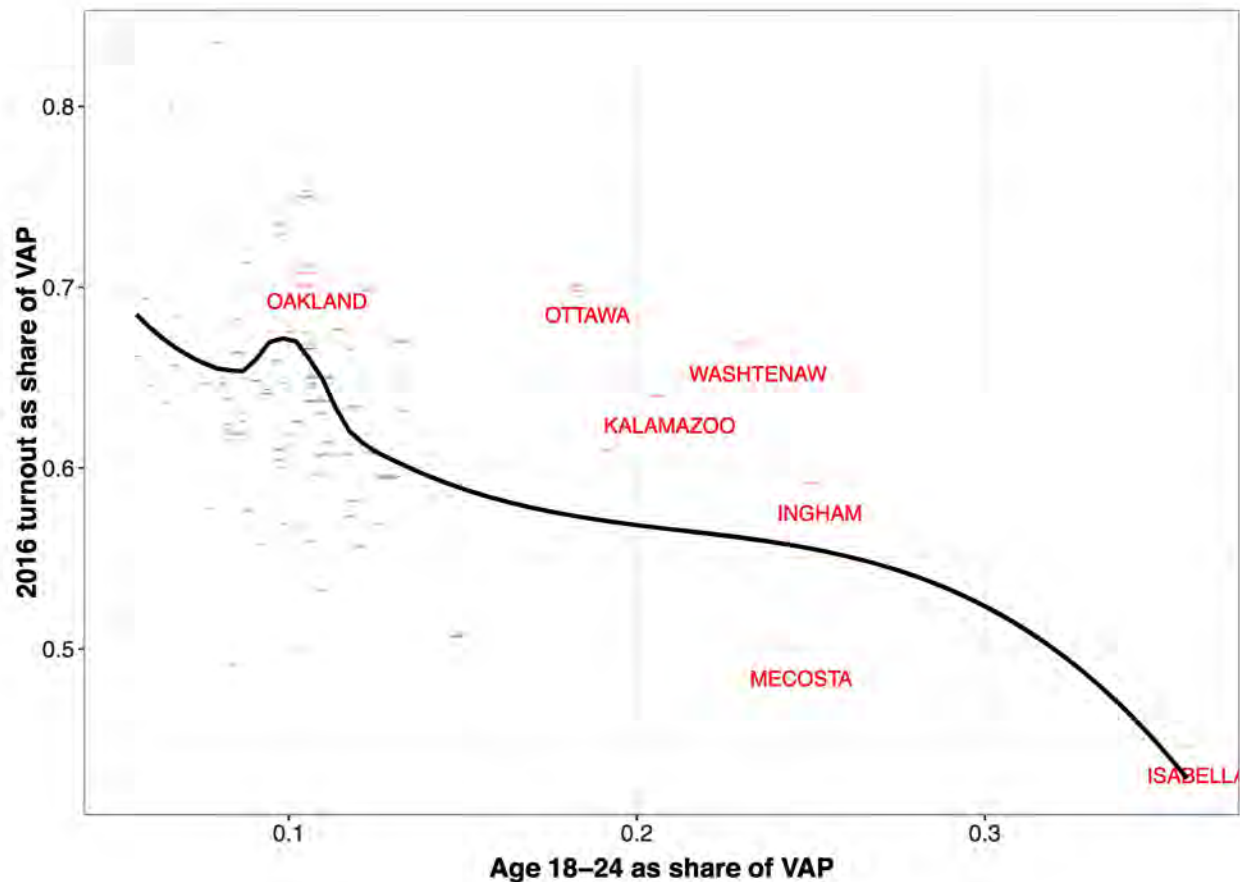
V. THE GEOGRAPHY OF MICHIGAN’S YOUTH TURNOUT GAP

In order to get a better understanding of Michigan’s rather striking youth turnout gap, let us explore the geography of young voters and turnout. Young eligible voters are dispersed throughout Michigan, but a couple of geographic patterns stand out. First, the share of Michiganders in the age range between 18 and 24 is lower in more rural counties—especially in the Northern part of the Lower Peninsula and in the Upper Peninsula— that are experiencing population loss. And second, young Michiganders make up relatively large shares of the population in counties with large colleges and universities.

On its horizontal axis, Figure 3 displays the share of voting-age Michigan residents between the ages of 18 and 24 by county, using data from the Five-Year American Community Survey (2011-2015). The size of the data marker corresponds to the size of the county’s voting-age population. Counties containing some of Michigan’s largest residential-oriented universities are displayed with red markers and red labels. These include Ingham (Michigan State University), Washtenaw (University of Michigan and Eastern Michigan University), Isabella (Central Michigan), Ottawa (Grand Valley State), Kalamazoo (Western Michigan), Oakland (Oakland University) and Mecosta (Ferris State). Oakland is a large suburban

county where university students make up a small part of the population, but all of the other counties with large colleges or universities have relatively large youth population shares. In addition to those in red, two other very small counties have youth population shares above 15 percent: Houghton (home to Michigan Tech) and Marquette (Northern Michigan).

Figure 3: Turnout and youth population shares, Michigan counties

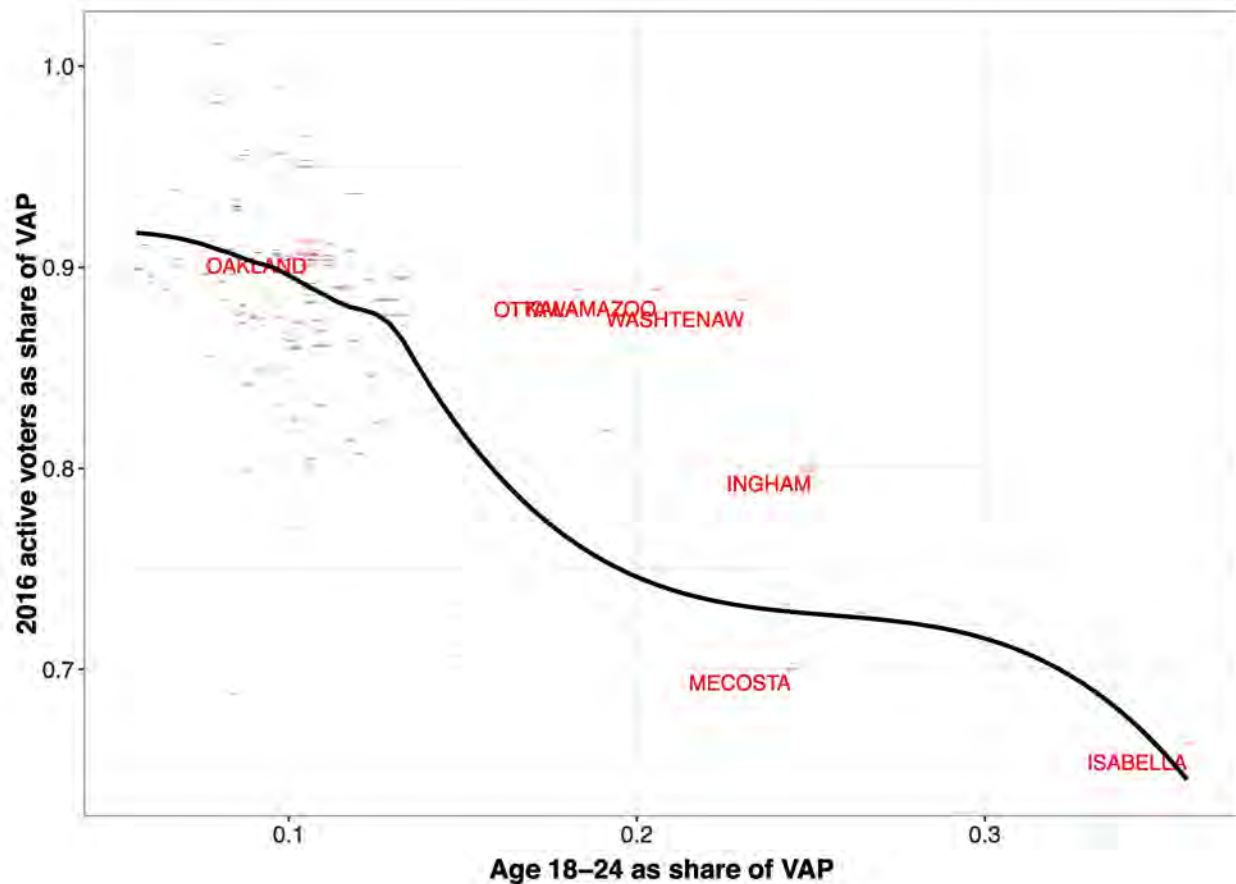


On the vertical axis of Figure 3, I display the votes cast in each county in the 2016 general election as a share of the voting-age population.⁴ Using data from all of the counties, the black fitted line captures the county-level relationship between the youth population share and the share of all citizen voting-age individuals who cast a ballot. It indicates that turnout was substantially lower in counties with relatively large youth populations. If we look only at the red data markers in Figure 3, we can see that this relationship is especially strong among the college counties.

Next, let us examine the county-level relationship between the prevalence of young people and registration rates. Figure 4 simply changes the vertical axis, displaying active county-level registrants as a share of the voting-age population. We see that as with turnout rates, there is a strong relationship between youth population and relatively low registration rates, and again, the relationship is especially strong among the college counties.

⁴ Data on votes cast by county are from the Michigan Secretary of State. Voting-age population data come from the 2012-2016 American Community Survey 5-year Estimates. I have also used Citizen Voting-age population data are from the redistricting data published by the United States census bureau, taken from the 2011-2015 American Community Survey 5-year Estimates, published 02/01/2017. Since CVAP and VAP are highly correlated, the graph using CVAP looks identical to the graph that uses VAP.

**Figure 4: Registration rates and youth population shares,
Michigan counties**



This striking county-level relationship between youth population and registration rates is not new. Unfortunately I have only been able to obtain county-level registration data going back to January of 2000—just after the implementation of Public Act 118. Already then, there was a strong relationship between young voting-age population and low registration. It is plausible that the

full effect of the law had not yet been felt by January of 2000, however. Thus it is useful to examine what has happened to county-level registration rates since then, both in the short term and the long term. Counties are not really the appropriate unit of analysis since they are quite large and young people make up a small minority of the population even in the college counties. But if Public Act 118 significantly discouraged young people from registering in their place of residence, we might be able to see that, after the implementation of the law, registration rates have lagged further behind in counties with relatively large youth populations.

First, let us compare county-level registration rates in January 2000 with those reported for October of 2002, right before the 2002 gubernatorial election. The vast majority of counties—65 of them—experienced an increase in registration numbers. Only 18 counties experienced a decrease. Most of these were very small Northern, rural counties that were losing registration simply because they were losing population. However, the list of counties that lost registrants during this period also included four college counties that were *gaining* voting-age population: Mecosta, Isabella, Ingham, and Kalamazoo. Moreover, the rate of growth in registration numbers was much slower in Ottawa and Washtenaw counties than that of voting-age population.

When we take population growth into consideration, it is clear that the college counties—and more generally, counties with larger shares of young voters—experienced significantly lower growth in registration rates between 2000 and 2002. I divide January 2000 registration in each county by the 2000 voting-age population (from the decennial census), and do the same for October 2002 registration, and from these, calculate the rate of growth (or decline) in the registration rate from 2000 to 2002. I then estimate a simple linear regression, where this change in the registration rate is the dependent variable, and the share of voting-age population between 18 and 24 (from the 2000 census) is the key independent variable. I account for population change by including a control variable that captures the percent change in county-level voting-age population between the census of 2000 and the census of 2010.⁵ This simple model reveals that counties with larger shares of young people experienced significantly less registration growth during this short period. The model suggests that once we account for population shifts, a county around the Michigan mean—where 11 percent of the voting-age population is between the ages of 18 and 24—

⁵ The model includes 82 counties. I drop Lake County because it is an extreme outlier, suggesting a possible error in the registration data for 2000. The regression coefficient for the “youth share” variable is $-.26$, with a standard error of $.07$, and a p-value of $.001$. The coefficient for the population change variable is $.29$, with a standard error of $.06$, and a p-value of $.0001$.

experienced a 2.5 percent *increase* in the registration rate. But a county where the youth voting-age population is 25 percent—in the range of Mecosta or Ingham Counties—experienced around a one percent *decrease* in the registration rate between January 2000 and October 2002.

This divergence since 2000 in registration rates between the college counties and the rest of the state has not abated. Let us examine the longer-term change in registration rates from January of 2000 to January of 2010. Specifically, I express 2000 registration as a share of VAP from the 2000 census, and 2010 registration as a share of VAP from the 2010 census, and calculate the percent change over time. Again, I perform a linear regression where the independent variable is the share of the voting-age population between the ages of 18 and 24.⁶ This model suggests that the average Michigan county experienced around a 4.5 percent *increase* in registration as a share of VAP, while a county with a 25 percent youth population experienced no growth. In fact, Mecosta, Isabella, and Ingham were among the small handful of Michigan counties with *lower* registration rates in 2010 than in

⁶ It is not necessary to include a control for population growth since the 2000 and 2010 are decennial census years, and registration numbers are divided by the appropriate voting-age population. This model includes the same 82 counties. The coefficient for youth share is -.26, with a standard error of .09 and a p-value of .004.

2000, and Ingham—home to Michigan State University—experienced a sharper decline in its registration rate than any county in Michigan.

It is somewhat surprising that even at the highly aggregated level of Michigan counties, there is evidence that areas with larger youth populations—already laggards with respect to registration—fell further behind after the implementation of Public Act 118. It is also clear that counties with large youth populations are those with large student populations. All of this suggests that in order to understand Michigan’s problem with youth turnout, it is advantageous to take a closer look at these college counties, where the prevalence of young people, low registration, and low turnout go hand in hand.

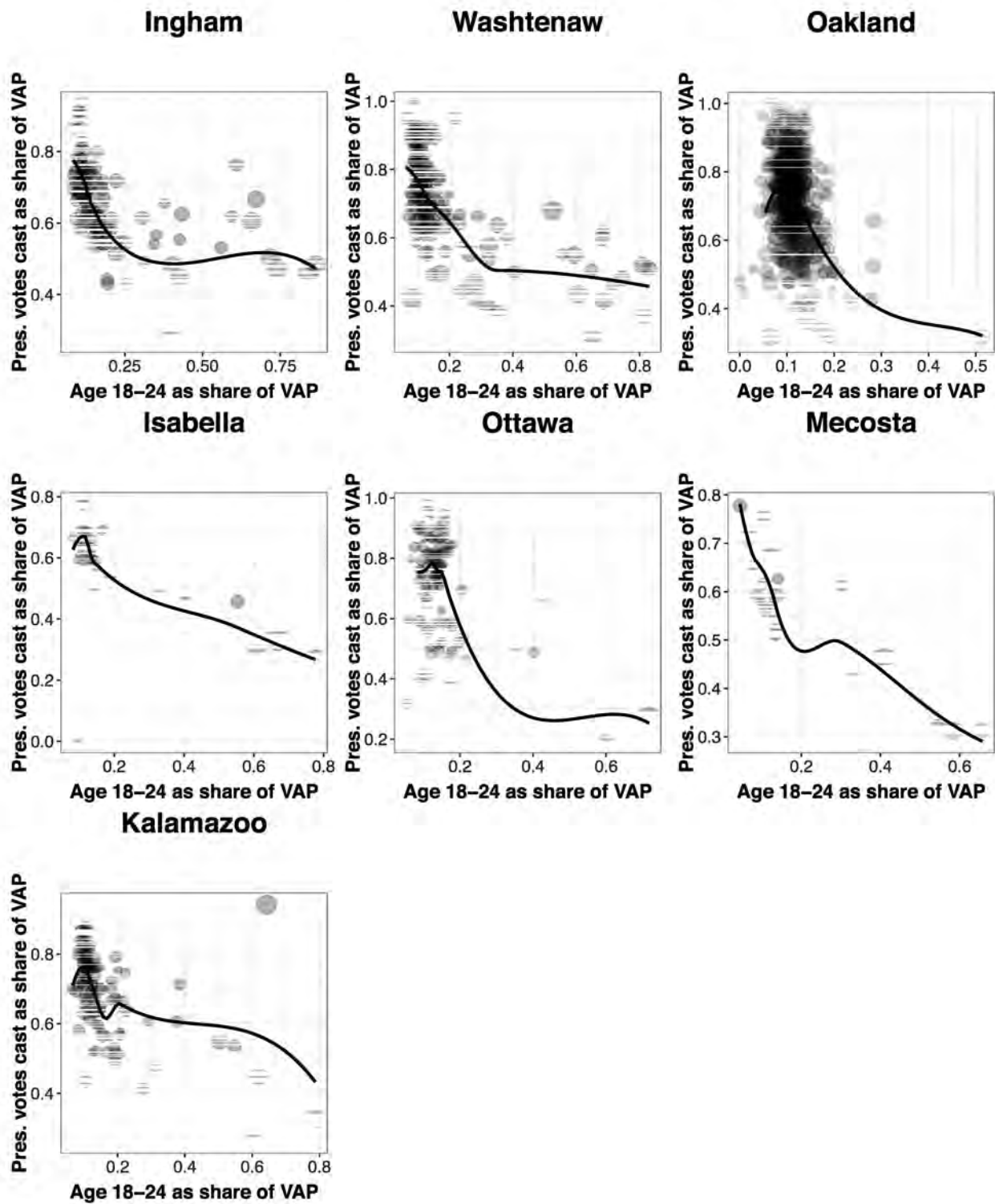
The county-level data provide only a very blunt first cut. After all, young people are quite geographically concentrated *within* these counties. Washtenaw, Oakland, and Ottawa, for instance, are counties with relatively high income and high overall registration and turnout, but they contain considerable internal spatial heterogeneity. To see this, it is necessary to analyze precinct-level data. I have collected precinct-level election results for the 2006 and 2008 elections and matched them to digitized precinct boundaries. This allows me to superimpose the precincts on census blocks, and then sum up block-level census data to the level of precincts. In this way, I have collected precinct-level estimates of individuals in

each age group (as of the 2010 decennial census), as well as the number of individuals living in college dormitories.⁷

This makes it possible to examine the relationship between age and turnout at the level of precincts *within* the college counties. In each case, turnout is far lower in precincts with large concentrations of young people than in the rest of the county. This relationship is demonstrated in Figure 5. For each county, the horizontal axis measures the share of the voting-age population composed of people between the ages of 18 to 24 in each precinct. The vertical axis measures the number of votes cast in the precinct in 2008 as a share of the voting-age population. The relationship is striking. Average turnout as a share of voting-age population was often around 70 or 80 percent—even higher in Washtenaw and Oakland Counties—in precincts where young voters accounted for 10 percent or fewer of voting-age individuals. However, turnout was roughly half that in the student-dominated precincts on the right side of each graph.

⁷ Precinct boundaries are constantly shifting, and decisions about changes to these boundaries are in the hands of city, municipal, and county governments. Thus the process of linking precinct boundaries to published precinct-level election results is painstaking. I have only completed this process for the elections of 2006 and 2008. My work on more recent elections is not yet complete.

Figure 5: Turnout and youth population shares, precincts



In fact, Figure 5 understates the typical strength of the precinct-level relationship between geographically concentrated student populations and low turnout. The 2008 election was a high point for youth turnout in Michigan. According to the CPS studies cited above, 51 percent of voting-age citizens between the ages of 18 and 24 voted in that election, but by 2016, the figure descended all the way to 37.8 percent.

Nevertheless, these graphs demonstrate that turnout is exceptionally low in precincts near colleges and universities. Precincts where 30 to 60 percent of the voting-age population are 18 to 24 years old are typically campus areas with rental housing geared toward students. Those with even higher shares of young people—on the far right-hand side of each graph— are often precincts containing dormitories. And they exhibit strikingly low levels of electoral participation relative to their surroundings, indeed relative to almost any place in Michigan.

It is useful to visualize the relationship not only in graphs, but in maps as well. Figure 6 provides a map of 2008 turnout as a share of voting-age population in Washtenaw County. Turnout was extremely high in the non-student neighborhoods on the West Side of Ann Arbor and in non-student neighborhoods like Burns Park, as well as in exurban and rural parts of the county, but very low around the campuses of the University of Michigan and Eastern Michigan

University. The only other place to rival the low turnout of these university areas was the precinct containing the Milan Federal Correctional Institute on the Southern border of Washtenaw County.

Figure 6: 2018 Turnout in Central/Eastern Washtenaw County

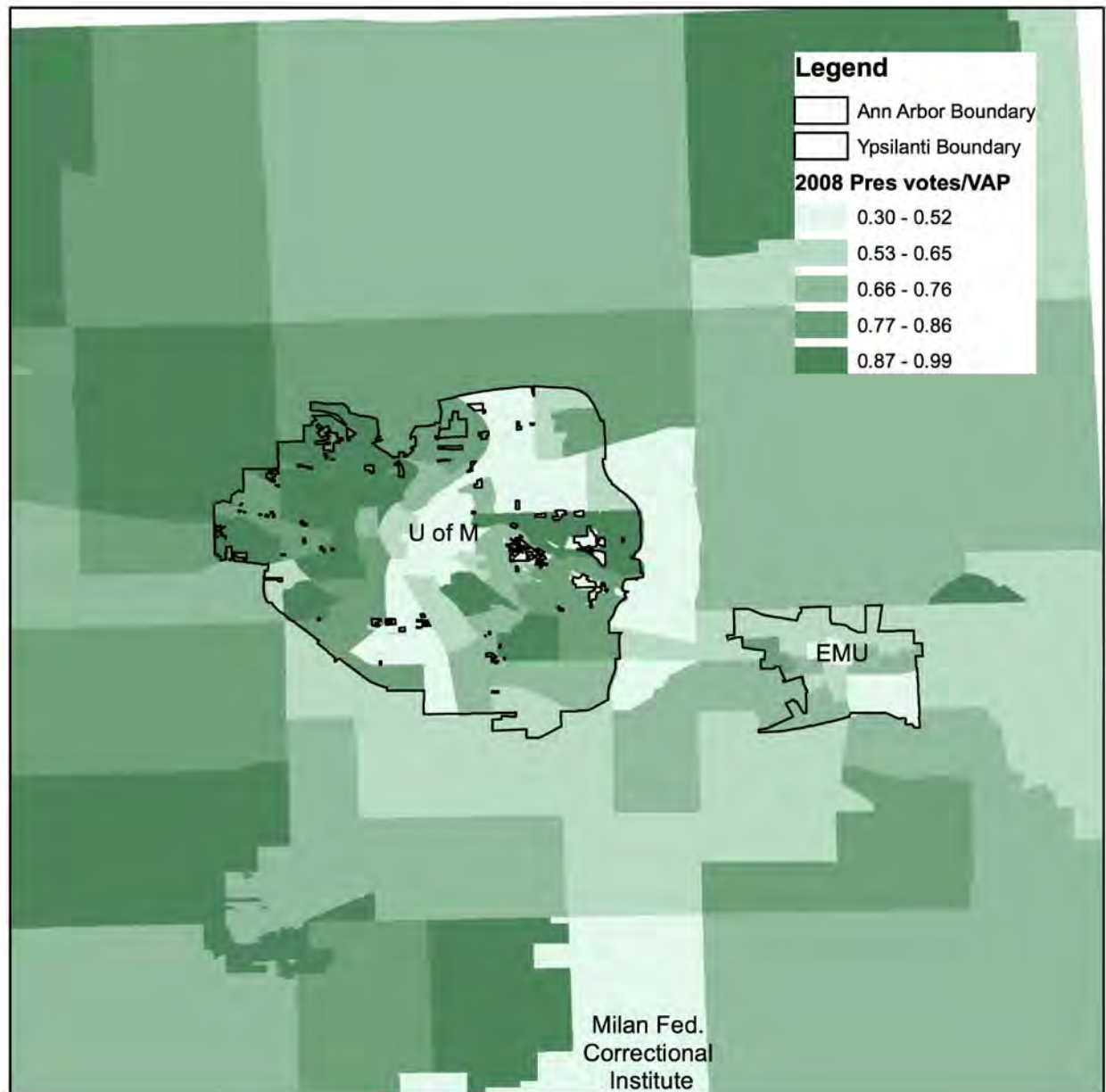


Figure 7: Young people as share of VAP in Central/Eastern Washtenaw County

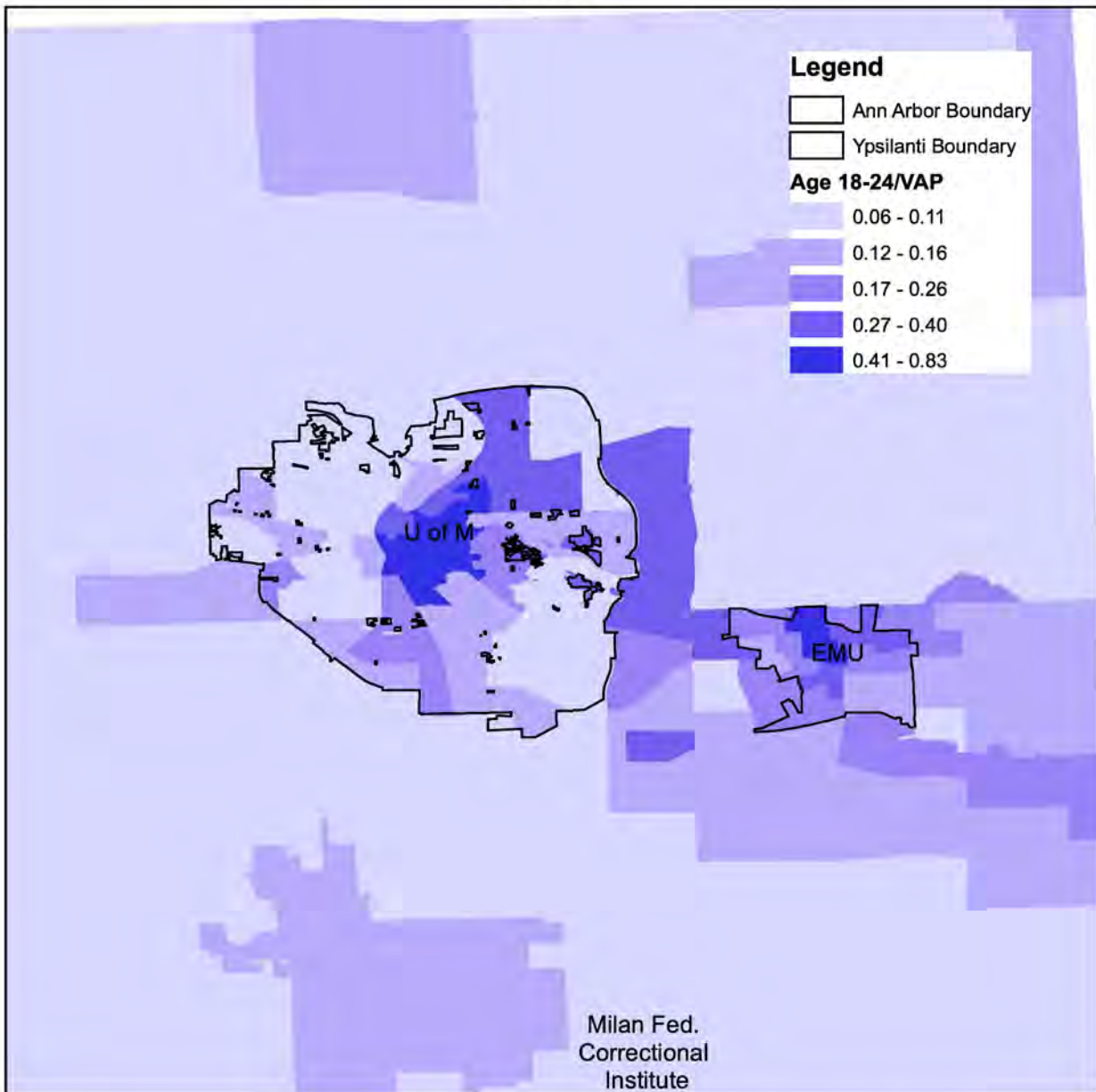
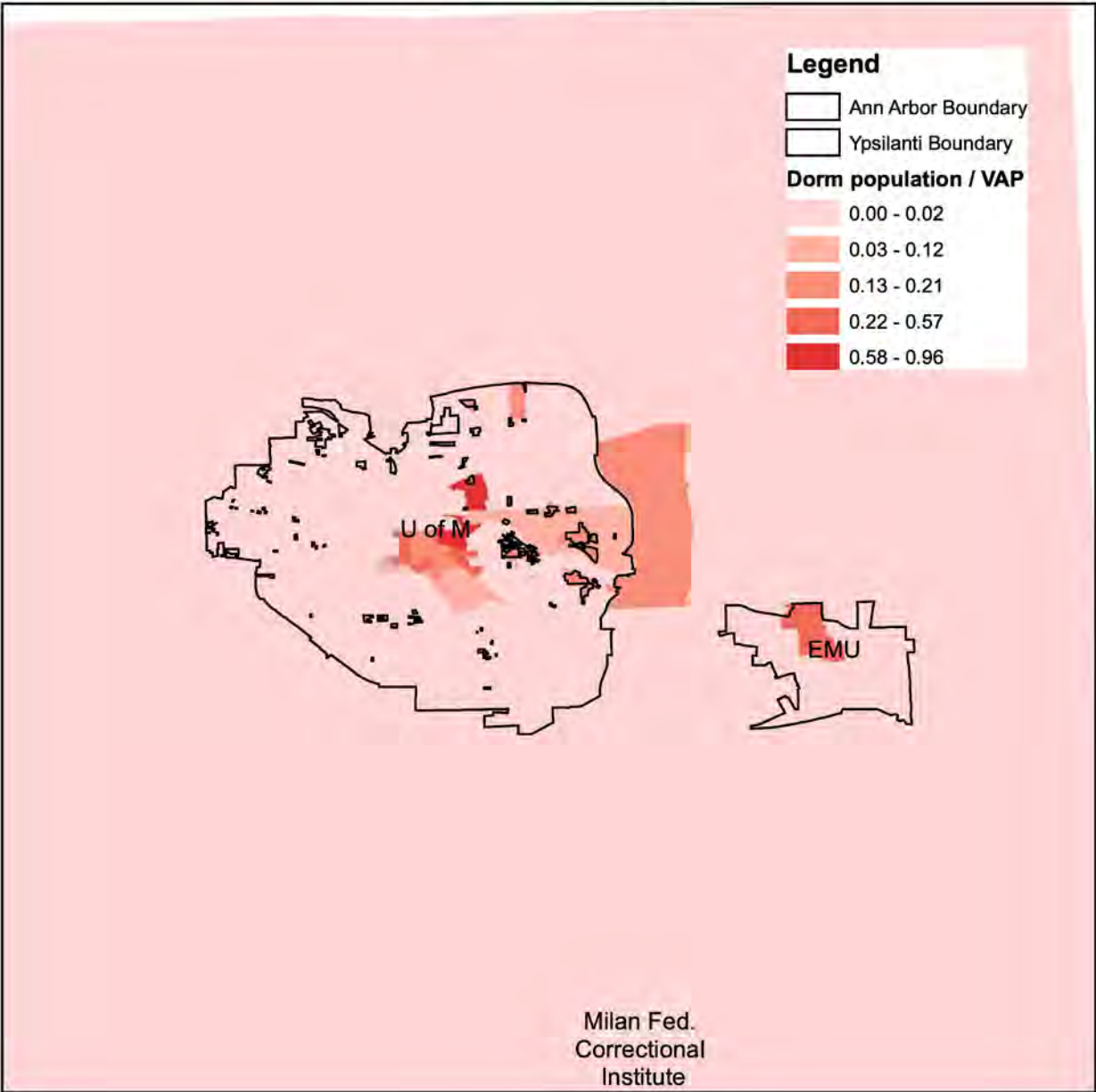


Figure 7 displays the share of the voting-age population between the ages of 18 and 24. The maps clarify that the neighborhoods with large concentrations of young people are also those with the lowest turnout. Additionally, Figure 8, which

displays college dormitory residents as a share of voting-age population, clarifies that the most extreme low-turnout pockets are precincts containing dormitories.

Figure 8: Dormitory dwellers as a Share of VAP in Central/Eastern Washtenaw County



VI. THE DECLINING RELATIVE TURNOUT OF MICHIGAN'S COLLEGE TOWNS

County-level and precinct-level snapshots of single elections are useful, but it is possible to draw a clearer connection between Michigan's laws and practices and the youth turnout gap. After all, at least some youth turnout gap is present in every state. Moreover, in part because of their residential mobility, college student turnout is relatively low in other states as well. A group of researchers at Tufts University, in a project called the National Study of Learning, Voting, and Engagement (NSLIVE), has matched enrollment records of students to voter rolls at a large number of universities. They have used the data to calculate rates of electoral participation in the November election of 2016 among students at over 1,000 colleges and universities. The average rate of voting for students at research institutions around the United States was 52.3 percent, but at the University of Michigan, Ann Arbor, it was only 44.7 percent.⁸ At one of Michigan's Big-10 peer institutions, the University of Minnesota, it was 65 percent.⁹

It would be useful to know whether these patterns of unusually low youth and college turnout can be linked more closely to Michigan's laws and practices—

⁸ NSLIVE, "Student Voting Rates for the University of Michigan, Ann Arbor," August 2017.

⁹ NSLIVE, "student Voting Rates for the University of Minnesota, Twin Cities," August 2017.

in particular, the 1999 passage of Public Act 118. From the Michigan Secretary of State's office, I have obtained precinct-level election results from 1998 to 2014. Unfortunately, these data sets do not include registration data, but they do include total votes cast. Fortunately, the data coverage allows me to have one observation that precedes the 1999 reform—the gubernatorial election year of 1998. Precinct-level boundaries are changed by county, city, and municipal governments quite frequently, but city boundaries are fixed. Moreover, the census provides aggregates of voting-age population at the level of cities and counties.¹⁰ Thus, I am able to examine turnout as a share of voting-age population in college towns like Ann Arbor, East Lansing, and Mount Pleasant to assess whether it fell relative to the rest of the county after the implementation of the reform. Since the only pre-reform observation is a gubernatorial year, it is sensible to examine subsequent gubernatorial (non-presidential) election years.

If the law had the impact of deterring students from registering and ultimately casting ballots in college towns, we should expect to see that electoral participation in college towns decreased relative to that of their surrounding counties in 2002 vis-à-vis 1998. Moreover, it is unlikely that the impact of the

¹⁰ I collect information on voting-age population at the level of the census place and county from the decennial census, and for each, I interpolate mid-decade values based on a linear trend.

reform would be limited to an immediate one-year shock. In fact, some students would still have been registered under the old rules in 2002. And we should anticipate that the law's impact would unfold further over time, as more students move to college towns, learn about the law, and make decisions about whether to change their registration.

Let us begin with the University of Michigan, Ann Arbor and Oakland University. Both are located in large, affluent, suburban counties with high rates of turnout (see Oakland and Washtenaw Counties in Figure 3 above). Both are places where we might not expect to see an impact of the law at such a high level of aggregation. Ann Arbor is a large, affluent, and growing community with very high (and growing) turnout in non-student neighborhoods. The same is true of Rochester Hills and Auburn Hills, which I have combined for this analysis. Oakland University students do not make up a very large share of the combined populations of these two cities. Thus, we might expect to see that any decline in turnout among students after the promulgation of the 1999 law might be offset by increasing turnout among the surrounding affluent communities.

Figure 9 presents data on the turnout of Ann Arbor relative to Washtenaw County, and the turnout of Auburn Hills and Rochester Hills relative to Oakland County. Specifically, I calculate county turnout, defined as gubernatorial votes cast

as a share of voting-age population, and city turnout, defined in the same way. I subtract the latter from the former, which produces a measure of the turnout gap between the college town and the county as a whole.

Figure 9: College town turnout gap: Ann Arbor and Oakland

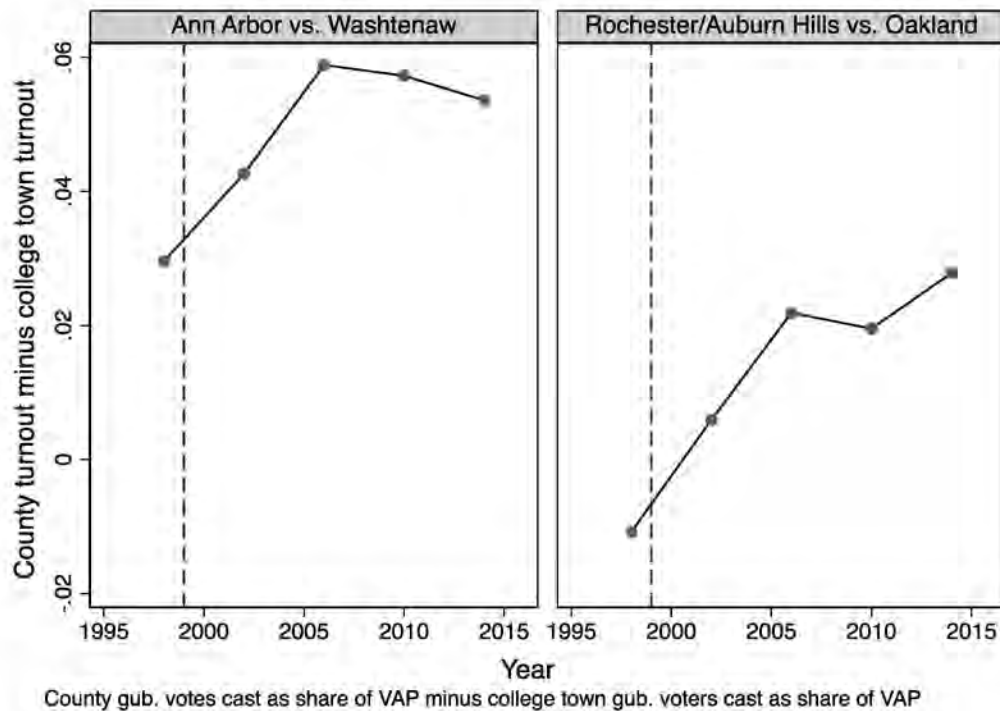


Figure 9 shows that there was already a turnout gap between Ann Arbor and Washtenaw County as a whole in 1998. However, it increased substantially in both 2002 and 2006, and then leveled off. In Oakland County, turnout in Rochester Hills and Auburn Hills was higher than the rest of Oakland County prior to the reform.

However, by 2002 a turnout gap had emerged, and it increased again in 2006 before leveling off.

Figure 10: College town turnout gap: Allendale, Big Rapids, East Lansing, and Mount Pleasant

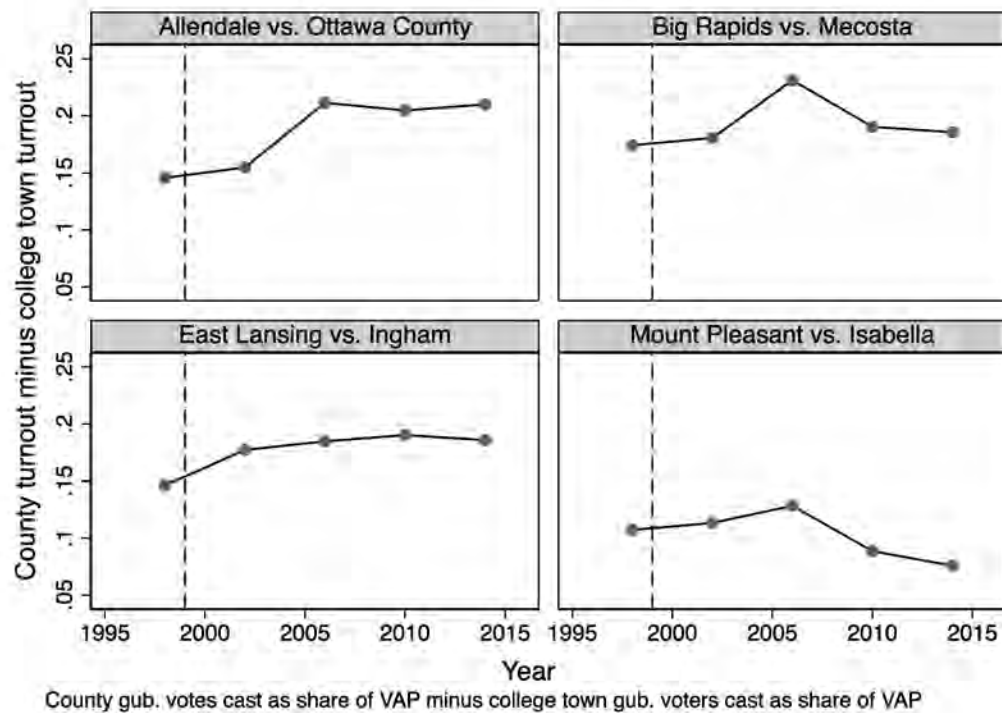


Figure 10 examines four additional college towns relative to their surrounding counties.¹¹ Relative to the Southeast Michigan counties, the turnout

¹¹ I exclude Kalamazoo from this analysis because student housing, including university dormitories, spill substantially over from Kalamazoo city, across the boundary into Kalamazoo township. Thus I cannot rely upon the city boundary as a useful dividing line between "student" and "non-student" populations.

gap was much larger to begin with in these counties. But in each case, the turnout gap grew in the first two post-reform elections. In Ottawa and Ingham Counties, the increased gap leveled off and remained substantial. In Mecosta county it leveled off, and in Isabella County, it has fallen below the 1998 level. In both of these cases, the declining college town turnout gap in the last two elections is a function of turnout that is declining faster in rural areas (especially on tribal lands) than in the college town.

In sum, all of the college towns experienced a decrease in turnout relative to their surrounding counties in the two elections immediately after the reform. In five out of six counties examined, this increased turnout gap has persisted to the present day.

VII. CASE STUDIES OF REFORM

Since 1999, Michigan's overall youth turnout gap has increased, as has the turnout gap between college towns and their surroundings. But it is possible to examine even more directly the hypothesis that the law had an impact on college students. The next step is to examine individual precincts *within* college towns before and after the reform. If the new law created disincentives for young college

students to register in their dormitories or college apartments, we should expect to see decreases in the number of registrants immediately following the reform in precincts with large numbers of young people in the college counties.

A problem with this research design is that precinct boundaries frequently change. Unfortunately, many counties and cities make changes after new decennial census data are released, which means changes took place in all of the counties between 1998 and 2002. This makes it difficult to directly compare registration and turnout numbers in specific precincts over time. However, this is sometimes possible if the changes to precinct boundaries involve not wholesale redrawing, but rather, consolidations and splits of existing precincts. Fortunately, it is possible to make direct comparisons over time since 1998 for all college precincts in East Lansing and some in Kalamazoo.

In Ann Arbor, precinct boundary changes have been more extensive, but I am able to pursue a different strategy: I link each precinct in each period to corresponding geo-spatial boundaries, and as above, I aggregate block-level data on the age structure of the population to the level of precincts, which allows me to examine whether registration has fallen over time in precincts with large shares of young Michiganders—even if the precinct boundaries have changed.

East Lansing

Ingham County is a good place to start. In fact, the law requiring a constantly-updated agreement between a voter's driver's license and registration address may have had its origins in Ingham County. While serving in the State Senate, Republican Mike Rogers sponsored the legislation one year before running for the extremely competitive 8th Congressional district, which included East Lansing. East Lansing's precincts—especially those around Michigan State University—had been some of the most reliably Democratic in the 8th District. For example, all of the campus-area precincts had given at least 80 percent of the two-party vote to the Democratic candidate, Debbie Stabenow, in 1998. By the standards of today's gubernatorial election years, campus-area turnout was high. Summing over all East Lansing precincts where at least 50 percent of the population was between the ages of 18 and 24, Stabenow received 5,222 votes in campus precincts, and 7,844 in East Lansing as a whole. Similarly, Democratic State Senator Dianne Byrum, who ran against Rogers in the 2000 8th Congressional district race, won more than 63% of the vote in campus precincts her 1998 State Senate race (more than 72 percent of the two-party vote). After the reform was implemented, Rogers won the seat by a razor-thin margin of 111 votes.

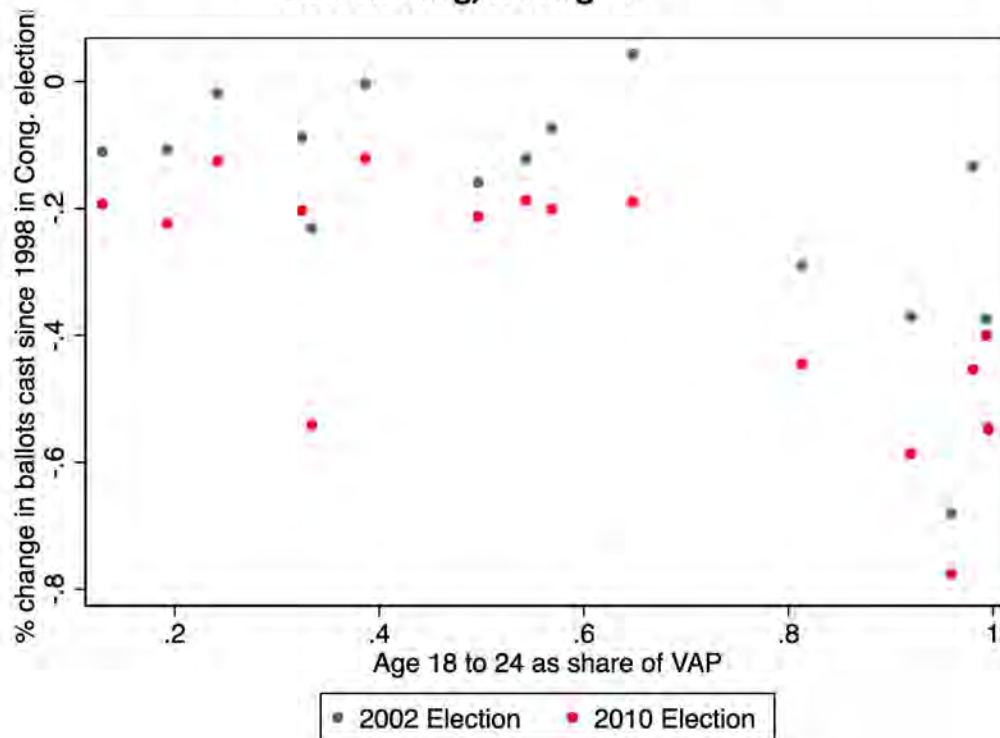
Let us now examine what happened in the MSU-area precincts after the reform was implemented. Fortunately, changes to the precinct boundaries from 1998 to 2002 around the Michigan State campus only involved consolidations, so by summing over consolidated precincts, it is possible to make a direct comparison of votes cast before and after the reform, and in subsequent elections as well.¹² Ingham County does not report historical precinct-level registration numbers, but the total ballots cast are quite informative. Recall from above that East Lansing's turnout decreased relative to that of Ingham County from 1998 to 2002. The precinct-level data allow us to see that this was driven overwhelmingly by college precincts. In the dorm-dominated precincts, the number of ballots dropped suddenly and dramatically in 2002.

This can be visualized in Figure 11, which plots the precinct-level share of voting-age population between the ages of 18 and 24 on the horizontal axis, and the percent change in the number of ballots cast since 1998 on the vertical axis. The percent change from 1998 to 2002 is plotted in black. While the number of ballots cast decreased by a relatively small amount in the non-student areas of East

¹² I have consulted geo-spatial boundaries of precincts that were submitted by Ingham County to the United States Census Department in 2000 and 2010, and have verified that these line-up with written narrative descriptions of historical ward boundaries published by Ingham County for various elections.

Lansing (on the left-hand side of the graph), the number of ballots cast in the student-dominated precincts (on the right side of the graph) collapsed by 40 percent in some precincts, and as much as 68 percent in one dorm-heavy precinct.

Figure 11: Percent change in ballots cast in 8th District Congressional Elections: East Lansing, Michigan



This sudden decline in voting on the Michigan State campus and its environs was not a temporary phenomenon. On the contrary, the geographic distribution of electoral participation in East Lansing experienced a permanent change. The red dots in Figure 11 show the percent change in Congressional votes cast from 1998

to 2010. They demonstrate that the highly asymmetric collapse of turnout in student precincts has been persistent.

This turnout gap has much to do with an underlying registration gap. For recent elections, Ingham County has started to publish precinct-level registration numbers, allowing us to examine the registration gap between non-campus precincts and campus precincts within East Lansing.

Figure 12: Registered voters as share of VAP and youth as share of VAP, East Lansing, Michigan, 2008

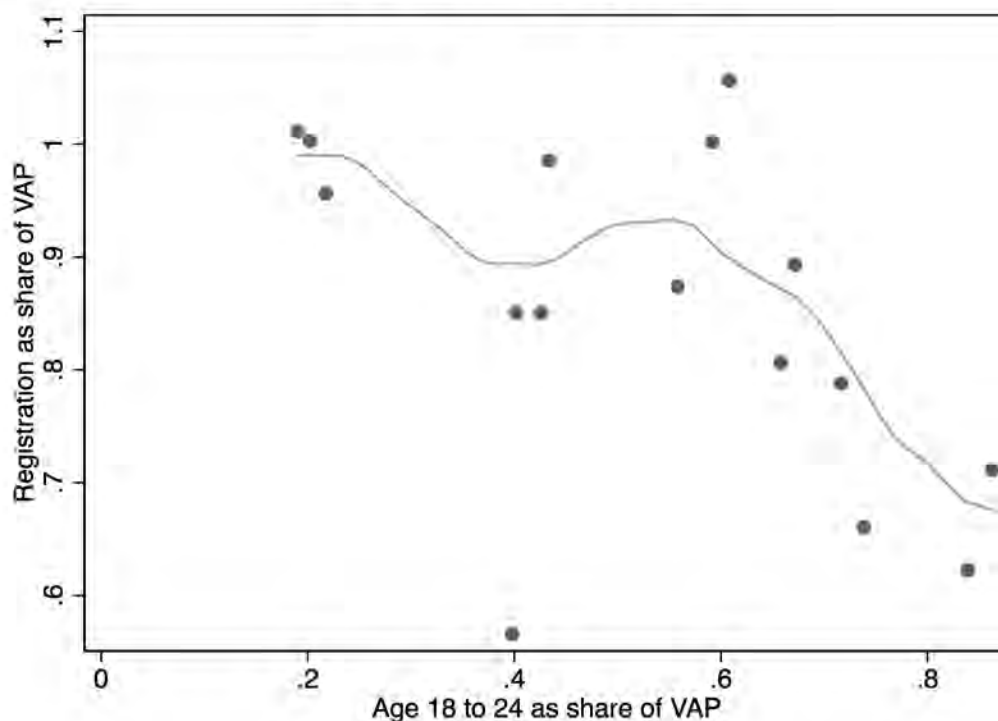


Figure 12 uses registration data from 2008, in order to facilitate comparability with the precinct-level turnout graph for Ingham County provided earlier in the report. Figure 12 shows that registration rates are very close to 100

percent in the non-campus East Lansing precincts on the left side of the graph, but in the range of 65 to 70 percent in the dorm-dominated precincts on the right side of the graph.

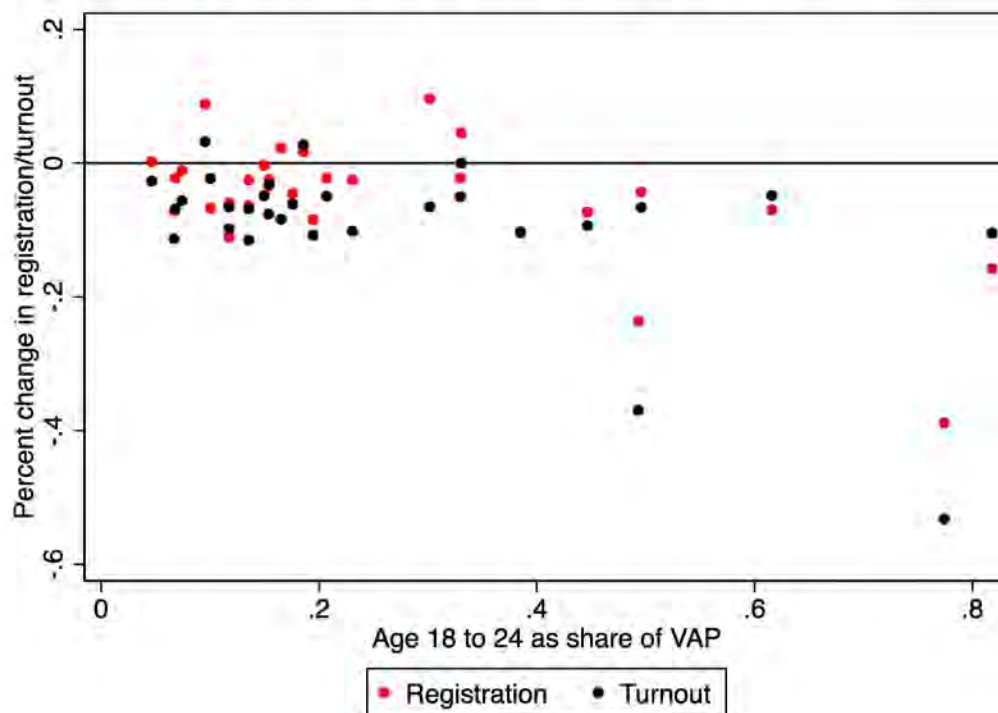
Kalamazoo

Kalamazoo also provides a very good opportunity to track precincts associated with the university over time. The City of Kalamazoo used a system of 30 precincts from 1992 to 2001. At the end of that period, they conducted a retrospective assessment of precinct-level registration. A published report provides precinct-level registration and turnout averages for that period. I have been able to use geo-spatial boundaries of these precincts to connect them with block-level census geography, and have calculated the share of the voting-age population between the ages of 18 and 24 in each of these precincts. I can then examine registration and turnout numbers in November of 2000, immediately after the reform was implemented, but before the precincts were redrawn, to see if registration and turnout were lower in precincts with relatively large student populations.

Both turnout and registration were relatively flat in the parts of Kalamazoo without large student populations, while sudden, rapid declines were evident in

some of the student-dominated precincts. Figure 13 plots percent changes in registration (in red) and turnout (in black) from the prior decade-long average to the single election of 2000. It is surprising to see such a sudden decrease in registration and turnout, especially since the average published by the city actually *includes* the year 2000.

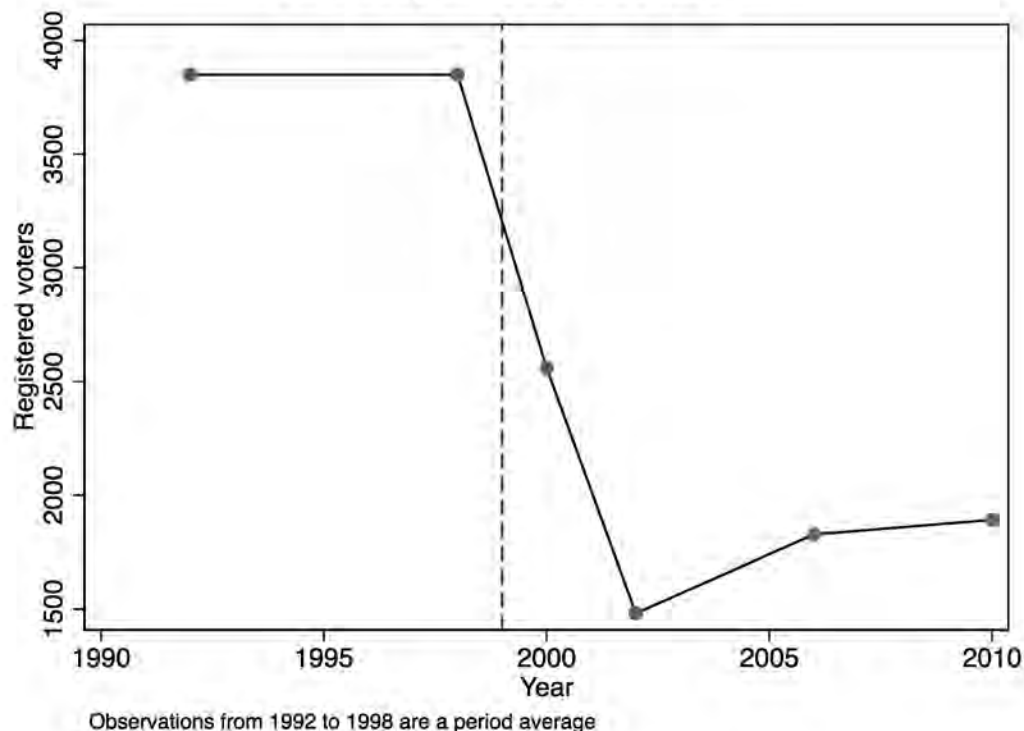
Figure 13: Percent change in registration and ballots cast in Kalamazoo City, average from 1992 to 2000 compared with 2000



In order to track any possible continued decline in registration and turnout after 2000, I would need to be able to match all of the precincts after the 2002 change in precinct boundaries. I am unable to do that for the city as a whole, but fortunately, the main section of the Western Michigan University campus—home

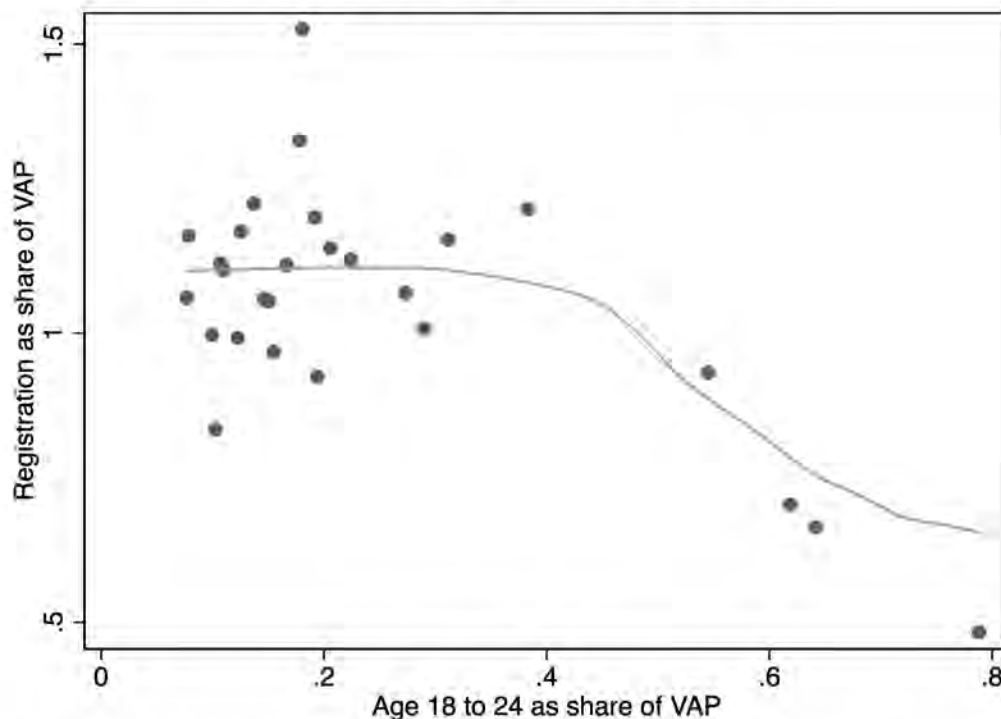
to many dormitory residents—was contained within Kalamazoo City precincts 4 and 5 from 1992 to 2000. Beginning with a new precinct system put in place in 2002, it is my understanding, based on analysis of precinct maps, that those precincts were combined to form precinct 2 in the new system. Thus, it appears that we can make a direct long-term comparison of at least one major section of the Western Michigan campus. We can track the registration totals for the years of the retrospective study (1992 to 2000), the year 2000, as well as subsequent years. The data are displayed in Figure 14 below.

Figure 14: Registered voters on the main section of the Western Michigan University campus, 1992-2010



Immediately after the reform, it appears that registration on the Western Michigan University campus plummeted. During the years from 1992 to 2001, including the year 2000, the average registration reported by the city was 3,850. But we can see that in the year 2000, registration had already fallen dramatically to 2,559. By the time of the 2002 election, it was down to 1,481—well below half of the pre-reform level.

Figure 15: Registered voters as share of VAP and youth as share of VAP, Kalamazoo City, Michigan, 2008



As in East Lansing, the youth registration gap in Kalamazoo City remains quite striking. In recent years, registration rates in the campus precincts are around half of those in the non-student neighborhoods of Kalamazoo. Figure 15 plots the registration rate (as a share of estimated voting-age population) in

Kalamazoo City in 2008 against young people as a share of the voting-age population.¹⁴

Figure 15 shows that rates of campus registration are quite low in Kalamazoo. An important part of the reason why ballots cast as a share of VAP are low in the campus precincts is that eligible young people are simply not registered—at least not in Kalamazoo.

Ann Arbor

It is not possible to track individual precincts over time in Ann Arbor due to wide-ranging precinct boundary changes that go well beyond consolidations and splits. Polling places and precinct boundaries are complex and shifting in Ann Arbor in part because of its unusual ward structure. Each of Ann Arbor's Five wards originates near the middle of the University of Michigan campus, and the boundaries of the wards extend outward from campus to the outer neighborhoods like slices of pizza. Remarkably, students living in a quarter-mile radius of Angell Hall are divided between all five Ann Arbor wards. It is difficult to escape the

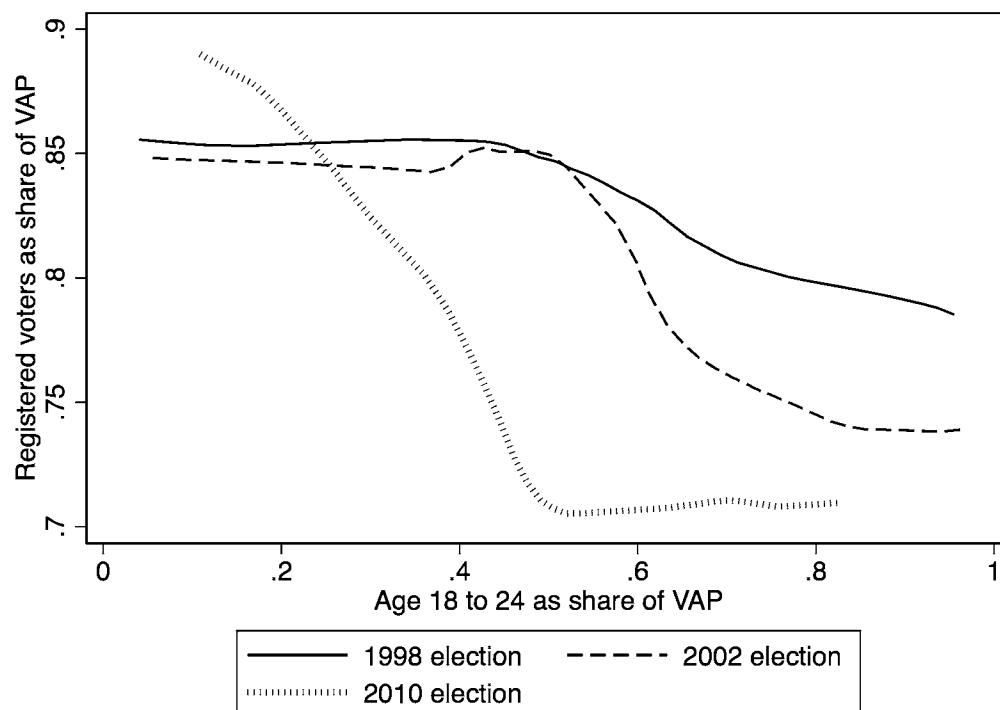
¹⁴ Note that in the non-campus parts of Kalamazoo, the number of registered voters surpassed the voting-age population, presumably because a relatively large number of inactive voters were on the voter file in Kalamazoo in 2008.

conclusion that the ward boundaries were drawn in this way to prevent students from forming majorities in any of the five wards.

Nevertheless, Ann Arbor is a useful college town to examine, because Washtenaw County publishes historical registration counts for each precinct in each year. Instead of attempting to follow individual precincts over time, I have entered these data by hand from county electoral records and matched each precinct in each ward with the relevant geo-spatial boundary file. This allows me to aggregate block-level age data from the 2000 and 2010 decennial censuses to the level of precincts and examine the shifting relationship between age and registration over time. I have been able to obtain data for the 1998, 2002, and 2010 gubernatorial election years. Figure 16 once again displays the 18 to 24 population as a share of the voting-age population for each precinct on the horizontal axis. The vertical axis represents the number of registrants in each precinct as a share of the voting age population. The solid line captures the relationship between these two variables for the 1998 election. The dashed line captures the 2002 election, and the thick dotted line captures the 2010 election. Figure 16 demonstrates that in 2002, registration numbers did not change in the parts of Ann Arbor without substantial student populations. However, the dashed line dips well below the solid line on the right side of the graph, indicating a substantial drop in registration

from 1998 to 2002, as in Kalamazoo. The dotted line indicates that registration as a share of VAP has continued to fall not only in the eight dorm-heavy precincts portrayed in the far-right side of the graph, but also in the precincts containing a mix of student apartments and single-family houses, where the youth population is in the range of 30 to 60 percent.

Figure 16: Registered voters as a share of VAP in Ann Arbor, MI



As with East Lansing and Kalamazoo, the youth registration gap in Ann Arbor depicted by Figures 16 is quite striking. Registration rates in the non-student parts of Ann Arbor are North of 85 percent, but they are around 70 percent on average

in the precincts where young people make up more than half of the voting-age population. In five student-heavy precincts, where young people make up more than 80 percent of the voting-age population, registration rates are well below 60 percent. Prior to the reform, registration rates in comparable precincts were around 80 percent.

VIII. AGE AND ABSENTEE VOTING

Registration and electoral participation in the vicinity of Michigan's college campuses are unquestionably very low. It is conceivable, however, that precinct-level data from college towns is misleading because college students are, perhaps in response to Public Act 118, voting via absentee ballot at their parents' home address. Perhaps it is the case that young people—especially those in college towns—are casting absentee ballots at unusually high rates. In order to examine this supposition, it is necessary to consult a Michigan voter file, which contains a full list of registered voters and their birth years as well as indicators of recent electoral participation, including an indicator of whether the individual cast an in-person or absentee ballot. The voter file also indicates whether the individual is on a list—maintained by individual jurisdictions in Michigan—of so-called

“permanent” absentee voters, who will automatically receive a ballot prior to each election.

Using this resource, it is straightforward to calculate rates of absentee voting for each age group. Figure 17 displays the share of registered voters who cast an absentee ballot by age in the November 2016 general election.

Figure 17: Share of registered voters who cast an absentee ballot in November 2016 general election, by age

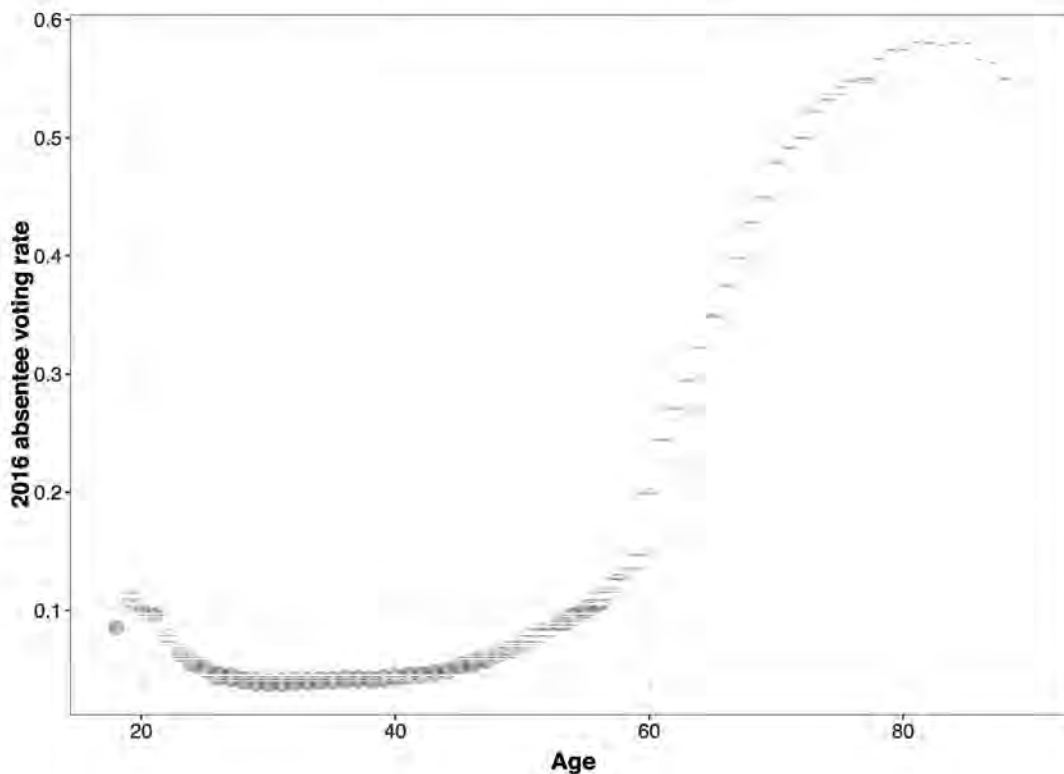
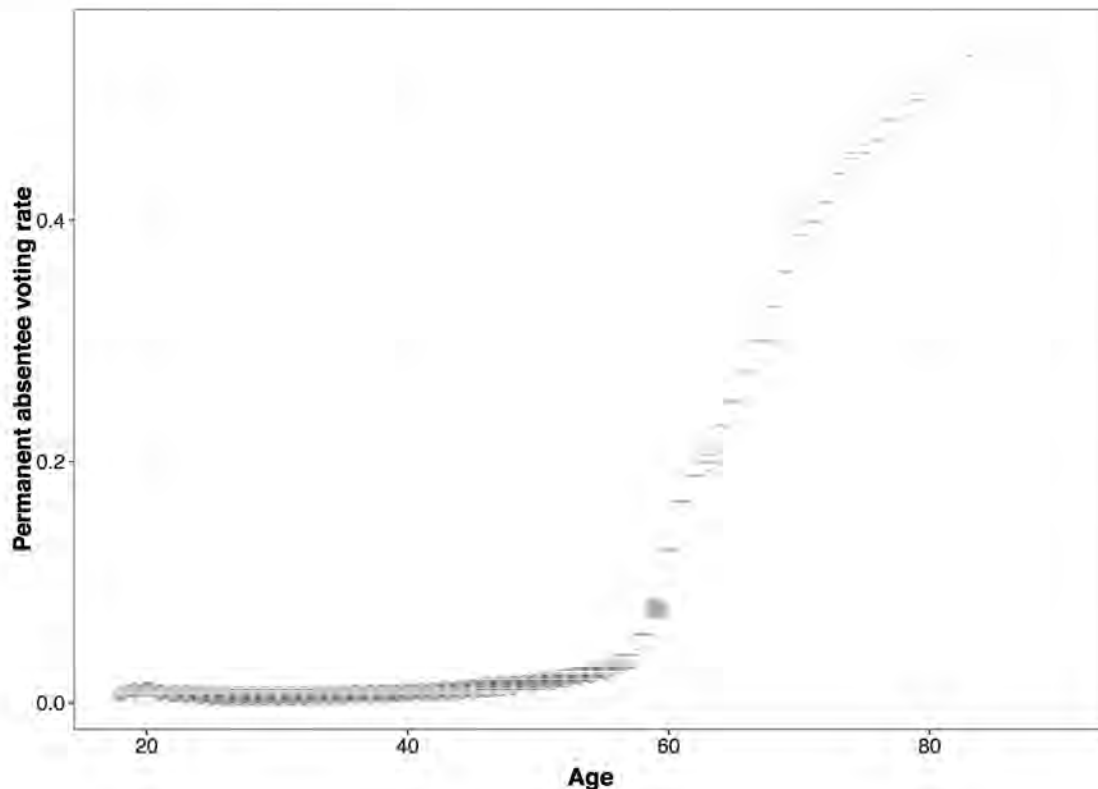


Figure 17 demonstrates that absentee voting in Michigan is not primarily used by young voters who are more likely to make frequent residential moves. On

the contrary, it is overwhelmingly used by Michiganders above the age of 60. This graph is no surprise, since all voters above the age of 60 are automatically eligible for an absentee ballot in Michigan and they are also automatically exempt from the requirement that first-time voters who register other than in-person must vote in-person. The large discontinuity in the graph between the ages of 59 and 60—and the steep increase in absentee balloting for those in their early 60s—suggests that the demand for absentee voting is quite strong in Michigan, and the age cut-off for automatic eligibility is clearly preventing many Michiganders from enjoying the same convenience as those over the age of 60.

In fact, many registered voters in Michigan above the age of 60 have signed up for the early voting list. They receive their ballot in the mail prior to each election. They are able to make use of the same convenience as voters in states like California or Arizona, which allow no-excuse absentee voting and permanent absentee voting status. Figure 18, which plots the share of voters on the early voting list by age, demonstrates that the early voting list is composed almost completely of voters over the age of 60.

Figure 18: Share of registered voters on the permanent early voting list, by age

When it comes to absentee voting, Michigan and its counties and municipalities maintain a very different election system for older and younger Michigan voters. While older voters can and do vote absentee automatically, new mail-in registrants, or those who register via third-party registration drives, are expressly forbidden from voting absentee, and Michigan does not maintain an online registration system. This law disproportionately affects young people. According to my analysis of the Michigan voter file, people between the ages of 18

and 24 make up around 8 percent of registered voters in Michigan, but they account for 23 percent of those who have registered in 2015 or later, and 27 percent of registered voters who voted for the first time in November 2016. In other words, new registrants and new voters are, as one would anticipate, disproportionately young.

The overall rate of absentee voting among registered voters in Michigan in the 2016 general election was 17 percent. But among those in the age range of 18 to 24, it was 8 percent—less than half the statewide rate. As one might expect given the law about new registrants, the rate of absentee voting was especially low—around 6.7 percent—among those between the ages of 18 and 24 who registered in 2015 or 2016. One might suspect that absentee voting rates among young people are higher in counties that send the most students off to Michigan’s colleges and universities. The Michigan Department of Education publishes information that tracks whether high school graduates enroll in college.¹⁵ From this data source, it is possible to identify the counties that send the most students to colleges and universities. In order, the top 5 “sending” counties are Wayne, Oakland, Macomb, Kent, and Genesee. Together, these account for well over half of all

¹⁵ “College Enrollment by High School Entity Breakdown,” available at www.mischooldata.org, accessed on August 31, 2018.

Michigan high school graduates who go off to college. The rate of absentee voting among young people in these five counties is no different than elsewhere in Michigan: 8 percent. And the rate is even lower—around 7 percent—for young people in those counties who registered in 2015 or later.

In sum, the absentee system in Michigan does not appear to provide a solution for college students who do not wish to change their driver's license every year. Absentee voting in Michigan is conducted in a way that, by design, favors older voters and leaves out a sizable group of young voters.

IX. CONCLUSIONS

The age composition of Michigan's voters is quite different from that of its voting-age population. According to the U.S. Census Bureau, the gap between overall turnout and that of young people is greater in Michigan than in any other state. This report has demonstrated that election laws and practices are very likely a part of the explanation. In particular, after the promulgation of Public Act 118 of 1999, Michigan's youth turnout gap increased relative to other states, registration clearly fell by large amounts in areas near colleges, and the turnout of college towns decreased relative to their surroundings. Relative registration rates even fell at the

county level in the counties that contained large student populations. Moreover, Michigan's electoral laws and practices have created a striking difference between older and younger residents in the use of absentee ballots.