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Elizabeth Oltmans Ananat
Ebonya L. Washington

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ABSTRACT

The impact of segregation on Black political efficacy is theoretically ambiguous. On one hand, increased contact among Blacks in more segregated areas may mean that Blacks are better able to coordinate political behavior. On the other hand, lesser contact with non-Blacks may mean that Blacks have less political influence over voters of other races. We find that exogenous increases in segregation lead to decreases in Black civic efficacy, as measured by an ability to elect Representatives who vote liberally and more specifically in favor of legislation that is favored by Blacks. This tendency for Representatives from more segregated MSAs to vote more conservatively arises in spite of the fact that Blacks in more segregated areas hold more liberal political views than do Blacks in less segregated locales. We find evidence that this decrease in efficacy is driven by greater divergence between Black and non-Black political views in the most segregated areas. Because Blacks are a minority in every MSA, increased divergence by race implies that the mean Black voter viewpoint is farther away from the mean voter viewpoint. Thus, reduced Black political efficacy may be one reason that Blacks in exogenously more segregated areas experience worse economic outcomes.

Elizabeth Oltmans Ananat
Sanford Institute of Public Policy
Duke University
Box 90245
Durham, NC 27708
and NBER
eoananat@duke.edu

Ebonya L. Washington
Yale University
Box 8264
37 Hillhouse, Room 2
New Haven, CT 06520
and NBER
ebonya.washington@yale.edu

"The power of the ballot we need in sheer defense, else what shall save us from a second slavery?"
--W.E.B. DuBois

"The vote is the most powerful instrument ever devised by man for breaking down injustice and destroying the terrible walls which imprison men because they are different from other men."
--Lyndon B. Johnson

I Introduction

A large literature suggests that segregation is associated with more negative outcomes for Blacks.[1] Blacks in more segregated areas are found to have higher infant mortality, lower educational attainment, and fare worse on a host of other outcomes than Blacks in less segregated areas. Ananat (2007) shows, that even when the endogeneity of segregation is carefully controlled for, Blacks in more segregated cities have lower education, employment and earnings than their counterparts in less segregated cities.

In this paper we explore the impact of segregation on a previously unexamined outcome: politics. Although the relationship between political outcomes and area racial and ethnic heterogeneity has been extensively studied,[2] this is the first paper, to our knowledge, to examine the relationship between segregation and Black civic efficacy. We define Black political efficacy[3] as the ability to elect Representatives who vote (in Congress) in a manner that the Black electorate favors. Under this definition, it is clear that the political views and actions of both Black and non-Black citizens will affect efficacy. In fact, given that in no MSA are Blacks a majority of the population, the behavior of non-Blacks may be more important than the behavior of Blacks in determining Black political efficacy. A priori, the relationship between segregation and

[1] See for example Massey and Denton (1995).
[2] This literature concludes that both political participation and public goods expenditures are decreasing in racial heterogeneity. See Costa and Kahn (2003) for a summary.
[3] We use the terms "political efficacy" and "civic efficacy" interchangeably.

Black civic efficacy is ambiguous. On the one hand, the more segregated Blacks are the more contact they have with other Blacks and thus the more likely they are to be able to influence Black political behavior. On the other hand, the less segregated Blacks are the more contact they have with non-Blacks and the more likely they are to be able to influence non-Black political behavior. As for non-Blacks' propensity to align themselves politically with Blacks, inter-group *conflict* theory suggests that greater contact yields greater conflict between the groups while inter-group *contact* theory suggests exactly the reverse. (See for example Taylor 1998 and Bobo 1988 on inter-group conflict theory and Johnson et. al 2000, 2001 on inter-group contact theory).

We bring empirical evidence to bear on this theoretical ambiguity. Clearly the challenge to an empirical analysis of the impact of segregation on any outcome is the endogeneity of segregation. (For example, perhaps non-Black residents' preference for interactions with Blacks influences both the level of segregation and the level of Black efficacy.) We circumvent this difficulty by using the railroad division index developed in Ananat (2007) to instrument for segregation. Before the Great Migration--the large movement of Blacks from the South to the North during the years 1915 to 1950[4]--Blacks predominantly lived in former slave-holding states. The instrument exploits the fact that this Great Migration occurred after the vast majority of the country's present day railroad tracks had been laid. The more subdivisions created in a city by the tracks, the easier it was in that city to confine (segregate) Blacks in neighborhoods whose boundaries were defined by these tracks. (One limitation of this identification strategy is that we can only explore the impact of segregation on civic efficacy outside of the South.)

[4] Some historians put the end date of the Great Migration at as late as 1970.

Employing the railroad instrument, we find that in the non-South, segregation, conditional on area heterogeneity, has a negative causal impact on Black civic efficacy. The more segregated the metro area, the less likely that its residents are represented in the United States House by an individual who is from the Democratic Party[5] or who votes in accordance with the desires of Black residents on civil rights and other issues. This negative relationship has held (and has not changed significantly) from the first redistricting period after the Voting Rights Act through the most recently completed redistricting period (or from 1973-2002). Given evidence that the tendency for Blacks to align themselves towards the left in the political continuum is increasing in segregation, our findings demonstrate that Black civic efficacy is decreasing in segregation.

What is the channel by which segregation impacts Black civic efficacy? We find no evidence that variation in district voter demographics drives our results. We also rule out variation in voter turnout by race as a possible explanation. We do, however, find evidence that in more segregated areas non-Blacks are more likely to hold negative views of Blacks and of policies that aid Blacks. Further, we find some support for the argument that segregation increases divergence between Black and non-Black political views. Because Blacks are a minority of the population in all metro areas, this polarization could explain the finding that Black civic efficacy is decreasing in segregation.

As exemplified by the quotations with which we began, there is a deep-seated belief in this country in the ability to effect change by pulling a lever on Election Day. Such a belief implies that Black political efficacy may be a mediator in the relationship between segregation and Black economic outcomes. Thus our results suggest that

[5] Blacks vote Democratic 70 to 90% of the time in two-party elections (McDermott 1998).

decreased political efficacy may explain in part why Blacks' economic outcomes are decreasing in segregation.[6]

We present these results in detail, after describing the data and methodology in the next section.

II Data and Methods

II.A Sample

We examine the changing relationship between segregation and political outcomes across decades. Our focal period is 1973[7]-2002, which includes every completed redistricting period since the Voting Rights Acts of 1964 and 1965 outlawed literacy tests and other barriers to Black enfranchisement.

Our unit of observation in each decade is the Metropolitan Statistical Area (MSA).[8] We focus on the MSA for two reasons: First, The MSA is *not* a political unit. Political boundaries, most notably congressional districts, are defined by the individuals who hold political power.[9] The relationship between segregation and political units may be endogenous. Thus we measure segregation at the MSA level, treating the configuration of the congressional districts to which MSA residents belong as an outcome variable. Second, a focus on MSAs avoids a second source of endogeneity: intra-urban residential sorting (Cutler and Glaeser 1997). For example, the most politically efficacious Blacks may choose to live in the least segregated parts of the metro area.

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[6] We recognize, however, that the direction of causation may also run from economic outcomes to civic efficacy.

[7] We also include the 1972 election which chose the members of the 93rd Congress which commenced in 1973.

[8] A Metropolitan Statistical Area is comprised of a county or set of counties that contain a central city of at least 50,000 inhabitants "plus adjacent counties with a high degree of integration with the central county as measured by commuting" (Office of Management and Budget 2000, 82238).

[9] States are political units whose boundaries are not decided by those who currently hold power. However, many states are too large (and contain too many areas in which Blacks do not reside) to speak about state segregation meaningfully. Nearly 90% of Black Americans live within an MSA. (McKinnon 2003).

More specifically, we examine outcomes for 312[10] MSAs identified by Cutler and Glaeser (1997) as having more than 1000 Black residents in the 1990 Census. One difficulty in comparing MSAs from decade to decade is that MSA definitions change with each census. We overcome this limitation by holding our MSA definitions constant[11] as we trace political outcomes back to the 1970's.

II.B. Segregation Indexes

Our primary measure of segregation is the dissimilarity index, defined as

(1) Index of dissimilarity $= \frac{1}{2}\sum_{i=1}^{N}\left|\frac{black_i}{black_{total}} - \frac{nonblack_i}{nonblack_{total}}\right|$

where $i = 1 \ldots N$ is the array of census tracts in the area. According to this measure, the level of segregation in our sample has fallen across the three decades. The first row of Table I shows mean dissimilarity for 1970, 1980 and 1990. The value of .69 in the first cell of the table indicates that in 1970 69% of the Black population would have had to relocate to other census tracts for there to be an even proportion of Black residents throughout the average MSA. By 1990 that figure had dropped to 56%. While the average level of segregation has fallen over time, the ordering of cities from most segregated to least segregated has remained fairly stable, indicated by a correlation between 1970 and 1990 dissimilarity of .75. Our 1990 dissimilarity values come from Cutler, Glaeser and Vigdor (1999). We calculate the 1970 and 1980 indexes, using the 1990 MSA definitions, with Census data for these years.[12] Results are not contingent on

[10] Cutler and Glaeser (1997) identify 313 MSAs with black populations greater than 1000. We eliminate the District of Columbia MSA because residents of the District do not elect any voting members to Congress.
[11] We maintain the 1990 definitions throughout. MSAs are defined by counties outside of New England and by towns within. We simply define the same set of counties/towns as an MSA in the three decades.
[12] Because the entire country was not fully census tracked until 1990, this procedure introduces additional measurement error as we move backwards in time. Twenty-nine MSAs in 1970 and 69 in 1980 did not include sufficient census tracts for us to calculate segregation indexes directly. For these MSAs we

our measure of segregation. An alternative measure of segregation, the isolation index, represents the percentage of Black residents in the average tract in which Blacks live. Our results are robust to the substitution of the isolation for the dissimilarity index.

II.C. Outcomes

Government structures vary from town to town both within and across MSAs. Thus we focus on the United States House of Representatives, because representation in the House is a metric that is comparable nationwide.[13] We measure Black political efficacy using both descriptive and substantive congressional outcomes. Descriptive representation is the extent to which a group is represented by individuals of that same group. However, descriptive representation does not always equal substantive representation, or representation by individuals who share the political interests of the group.[14] Our outcomes are the following:

Descriptive Representation

1) Black Candidates: One measure of the extent to which Blacks are participants in politics is the fraction of congressional districts in which there is at least one Black candidate running for the House. District candidate race data, available only for the 1980s and 1990s, are from Washington (2006). The mean of this measure has increased between the two decades. (See Table I for the decade by decade means of all outcome variables.)

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predicted the segregation index using the 1990 segregation level and the change in percent Black, percent in poverty, percent high school graduate and percent employed between 1970 (1980) and 1990.

[13] Additionally the sheer number of local governments—more than 10,000 cities, towns and counties—within our MSAs makes a focus on local government outcomes infeasible.

[14] For example, imagine a state with 10 districts. Blacks make up 10% of the state population. If all Blacks are located in one district then that district will likely elect a Black representative. Yet, on average Blacks will not likely have their substantive interests met by this legislative delegation as Blacks only directly influence (through the vote) one tenth of their state's representatives.

2) Black Representatives: A stricter measure of participation in politics comes from looking to the election winners. Our second efficacy outcome, which has grown more slowly across decades, is the fraction of Representatives who are Black.

Substantive Representation

3) Democratic Representatives: In two-party elections, Black Americans cast their votes in favor of the Democratic candidate 70 to 90% of the time (McDermott 1998.) Hence, we take the fraction of Representatives who are Democrats as a measure of Black political efficacy. This measure is falling over our sample period. Democrats' majority (in terms of number of members) over Republicans in the House shrank from the 1970s to the 1980s and was overturned in the 1990s.

4) Leadership Conference on Civil Rights Voting Record Score: Representative party is a coarse measure of political views. In addition to party, we look at Representative voting on civil rights issues as rated by the Leadership Conference on Civil Rights (LCCR).[15] LCCR is a liberal leaning interest group that chooses approximately ten to twenty congressional votes per session that the organization considers as crucial to promoting civil rights in this country. A representative's LCCR score in a particular session is the fraction of these votes in which the representative votes in accordance with the LCCR's position.[16] This measure is increasingly correlated with Democratic representative over time.[17]

[15] The scores for the 91st through 109th Congresses are available on the LCCR website, www.civilrights.org.

[16] We do not adjust these scores for comparability across years as prescribed by Groseclose, Levitt and Snyder (1999). Such an adjustment would be inappropriate in this analysis because it relies on restrictions in the changes in a representative's mean preferences from year to year. As we have no prior evidence on the relationship between segregation and representative preference, we are more comfortable allowing preferences to vary freely. Lack of comparability imposes no limitations in interpreting our regression coefficients as all average LCCR scores within a regression are composed of averages of the same

5) Congressional Black Caucus Voting Record Score: Civil rights is not the only category of legislation of interest to Blacks.[18] We follow Cameron, Epstein and O'Halloran (1996) to create a second voting score based on the fraction of the ballots in which the legislator votes in agreement with the Congressional Black Caucus (CBC).[19] Founded in 1969 by the then thirteen Black members of Congress, the CBC has as its goals "to positively influence the course of events pertinent to African Americans and others of similar experience and situation, and to achieve greater equity for persons of African descent in the design and content of domestic and international programs and services."[20] Every Black member of Congress, since the CBC's founding, with the exception of JC Watts (R-OK), has been a member.[21] The caucus currently has 43 members. The mean of Representatives' average agreement with the Congressional Black Caucus has remained about .6 across decades.[22] This measure is highly correlated with LCCR score across time.[23]

In order to merge MSAs with their congressional outcomes, we match an MSA's counties to its respective congressional district(s) for each congressional session.[24]

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congressional sessions. Nonetheless, across decades, LCCR scores are highly correlated (.84 or greater) with Poole and Rosenthal's inter-temporally comparable Nominate scores available at www.voteview.com.

[17] The correlation is .5 in the 1970s, .67 in the 1980s and .87 in the 1990s.

[18] In addition voting record scores compiled by interest groups have been criticized for including only the most polarizing votes. See for example Snyder (1992).

[19] Data on how each member of Congress voted in each roll call vote are available on Poole and Rosenthal's website www.voteview.com .

[20] Goals taken from the Congressional Black Caucus Website (http://www.cbcfinc.org/About/CBC/index.html).

[21] Non-Black members of Congress are not permitted to join. Membership restrictions obtained in a communication with Myra Dandridge, spokesperson for the Congressional Black Caucus, July 7, 2006.

[22] We limit our attention to only those votes in which 60% or more of the CBC voted in agreement. Our results are robust to a change from 60 to 100%.

[23] The correlation is .85 in the 1970s, .82 in the 1980s and .91 in the 1990s.

[24] In the case of New England we do the match by county and by town. The county match may give an overestimate of the districts in the MSA because counties are not contained by MSA boundaries within New England. On the other hand towns may give an underestimate of the districts in the MSA because it is not possible to look up the correspondence between unincorporated areas within an MSA and a district. County/district correspondence comes from *103rd Congressional District Geographic Entity File, 1990*

Because an MSA may contain more than one district[25] we average outcomes across districts within an MSA to create MSA/congress level outcomes.[26] (We use the mean rather than the median following Cameron, Epstein and O'Halloran (1996) who argue that the scores represent probabilities of voting in favor of a piece of legislation.) Then, to attain our best estimate of efficacy within a redistricting period, we average across the five Congresses to create MSA/decade level outcomes.

The focus on the House of Representatives drives our definition of decades. The number of representatives that each state may send to the House is defined by the decennial census. The first election affected by each census is the election in the year ending with 2 following that census. For example, the number of districts per state calculated using the 1970 census was first relevant for the 1972 House elections. Those elected in 1972 served from January 1973 to January 1975. Thus we define our decades to include all elections and congresses based on the respective census.[27] (Recall that the measures of segregation are also created using the census.)

II.D Methodology

For each decade, we are interested in the following equation:

(2) $\text{outcome}_i = \alpha\iota + \beta_1(\text{segregation})_i + \beta_2\,(\text{perblk})_i + u_i$

(ICPSR 6425) and *Census of Population and Housing, 1980, Congressional District Equivalency File, 99th Congress*. County/district correspondence for 1970, town/district correspondence for all years, and intra decennial redistricting correspondence come from *Congressional District Atlas (multiple years).*

[25] Or portions of more than one district.

[26] We would like to weight this average by the fraction of MSA residents who live in the district. Unfortunately, these data are only available for the districts created with the 1990 redistricting. For 1990 we run specifications using outcomes created by weighted averages as well as those created by simple averages. Results are robust to this change.

[27] Although the majority of congressional redistricting is done between the census year and the election that follows two years later, states are free to redistrict at any time. Therefore we match MSAs to districts by congressional session and not by decade.

where *outcome* is one of the political efficacy measures defined in the previous section, *segregation* is the dissimilarity score and *perblk* is the percent of the MSA's population that is Black. Blacks may be more efficacious where they are a larger percentage of the population. We condition on percent Black to isolate the effects of segregation, conditional on area ethnic heterogeneity. Previous literature has shown an association between demographic characteristics (such as education, poverty status, employment status and age) and political participation and political choice. (See for example Leighly and Nagler, 1992 and Wolfinger and Rosenstone,1980). However, we *do not* control for these demographics in our most basic specification because the demographic make up of the MSA is in fact endogenous to segregation. For example, Ananat (2007) shows that segregation affects the average level of education, income and even movement into an MSA. By omitting these endogenous demographics we capture the full effect of segregation on each outcome of interest (including any intermediary effects on demographic characteristics.)[28]

The limitation of equation 2 is that the coefficient β_1 cannot be interpreted causally due to the potential endogeneity of segregation. For example, perhaps non-Black residents' preference for interactions with Blacks influences both the level of segregation and the level of Black efficacy--such an influence might lead our OLS results to be biased in a negative direction. Or perhaps the most politically active Blacks prefer to live primarily among Blacks--such a preference might lead our OLS results to be biased in a positive direction. The great shortcoming of the OLS results is that we cannot even sign their bias.

[28] Our 2SLS results are robust to the inclusion of controls for demographic characteristics, as we demonstrate in the results section.

We overcome this limitation by following a 2SLS approach; we instrument for segregation using Ananat's (2007) railroad division index (RDI). Before the Great Migration Blacks predominantly lived in former slave holding states.[29] The RDI instrument exploits the fact that the Great Migration, the large movement of Blacks from the South to the North during the years 1915 to 1950, occurred after the vast majority of the country's present day railroad tracks had been laid. The more subdivisions within a city created by the tracks, the easier it was in that city to confine (segregate) Blacks in neighborhoods whose boundaries were defined by these tracks. The RDI is defined as

$$(3)\quad RDI = 1 - \Sigma\left(\frac{areai}{totalarea}\right)^2$$

where *i* represents a subdivision of the central city of an MSA created by railroad track.[30] An RDI of zero would mean that there are no tracks running through the MSA. An RDI of one would mean that the MSA is infinitely divided by railroads with each area having an area of near zero.[31]

RDI should better predict segregation in areas in which there is greater demand for segregation. Historical evidence indicates that the demand for segregation is increasing in percent Black in the area (Massey and Denton 1993 and Weaver 1955). Thus in our 2SLS we include distance from the south as well as the interaction of distance and RDI to allow the impact of the RDI on residential segregation to vary with

[29] Ananat (2007) estimates that in 1910 90% of Blacks still lived in former slave states of Delaware, Maryland, the District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Tennessee, Kentucky, Missouri, Texas and Arkansas.
[30] Ananat (2007) defines the center city as the four kilometer radius circle around the centroid of the population center in the early 20th century. Such an approach means that historical variations in city size will not distort the RDI measure.
[31] Atack and Passell (1994) estimate that 75% of total track in the Untied States had been laid by 1900. Nonetheless, to better capture the pre-Great Migration track configuration Ananat (2007) calculates the RDI using historical maps with a median year of creation of 1909.

the ease with which Blacks could reach the MSA and presumably the demand for segregation.

Our first stage equation is

(4) $\text{segregation}_i = \alpha\iota + \delta_1(\text{RDI})_i + \delta_2(\text{distance})_i + \delta_3(\text{RDI*distance})_i + \gamma_1(\text{tracklength})_i + \gamma_2(\text{perblk})_i + u_i$

where *distance* is the distance in miles from the MSA to the closest former slave state. There is a mechanical relationship between *tracklength* and *RDI*. We therefore control for *tracklength* out of a concern that the amount of track laid in a city may relate to how prosperous the city was and therefore how desirable a location it was for, for instance, the most politically efficacious Blacks (Ananat 2007). (Our first stage estimates for the three decades are found in the first three columns of Table II.)

Our second stage is

(5) $\text{outcome}_i = \alpha\iota + \beta_1(\text{segregation})_i + \beta_2(\text{perblk})_i + \beta_3(\text{tracklength}) + u_i$.

The assumption of our identification strategy is that RDI at the beginning of the twentieth century does not predict Black civic efficacy at the century's end, except through its effect on segregation. There are two obvious ways in which that assumption could be violated. First, RDI (or distance) could be correlated with early twentieth century MSA characteristics which impact later twentieth century political efficacy. Second, the instruments themselves may have direct impacts on Black civic efficacy or its correlates.

Our instruments do not predict early twentieth century MSA politics. Table III presents regressions of the percent of MSA voters[32] casting ballots for the Democratic

[32] The denominator is the number who cast ballots for one of the two major parties.

candidate in the six presidential elections that occurred between 1900 and 1920. The sample is the non-New England MSAs in our 2SLS sample. We omit New England because in that region MSAs are not defined by counties; the early twentieth century voting data is available by county. Neither RDI nor distance is a significant predictor of Democratic voting. Thus Table III provides no evidence that our instruments affect present day Black civic efficacy through an impact on early twentieth century politics.

Ananat (2007) further demonstrates that RDI is not correlated with early twentieth century demographic and economic characteristics. Using the 1910 and 1920 censuses, she shows that RDI does not predict early century demographic descriptors of the population including population size, percent Black, level of European immigrant segregation,[33] and physical size of the MSA. Nor does RDI predict early century economic outcomes such as the literacy rate, the number of street cars per capita, labor force participation rate and the share of employment in trade, manufacturing and railroads. Distance to the south significantly predicts only 1910 physical size and 1910 ethnic dissimilarity. However, the instruments' coefficients in the immigrant dissimilarity specification have the opposite sign of the coefficients in a regression of present day Black-non Black segregation on the instruments, suggesting that the correlation between the instruments and present day segregation is not due to autocorrelation in segregation.[34] Thus in order to increase the strength of the first stage in our small sample we include the main effect of distance, in addition to RDI and the interaction of the two, as one of

[33] European ethnic immigrant segregation was then at its historical peak, according to Massey and Denton (1993). Its historical peak was quite low relative to the historical peak of black segregation—the maximum isolation index was 0.39 for Italians in Worcester, MA in 1910 (Vigdor 2006); by contrast, the *median* isolation index for blacks in 1970 was .37.

[34] Distance has a marginally significant impact on 1910 population and 1920 literacy rate. The coefficients in the literacy specification are again of the opposite sign of those of the present day segregation specifications.

instruments. However because of the potential endogeneity of distance, we demonstrate that our basic results, though weaker, are robust to the use of only RDI and the RDI distance interaction as instruments, employing the main effect of distance as a control.

As stated above, an additional concern is that our instruments themselves may have direct impacts on Black civic efficacy or its correlates. Ananat (2007) presents evidence that the instrument set does not impact later twentieth century outcomes, except through its effect on segregation. The concern is that railroad configuration could impact land values and therefore residential income segregation. She provides evidence against this channel by demonstrating that neither RDI nor distance predicts 1990 income segregation.[35] Further, given her results of a positive relationship between RDI and White economic outcomes (in contrast to a negative relationship between RDI and Black economic outcomes), Ananat (2007) argues that RDI operates through race rather than through income.

Further proof of their validity is that the instruments do not begin to predict Black/non-Black segregation until the completion (or near-completion[36]) of the Great Migration in 1950. The fourth column of Table II demonstrates that the instruments, with a joint significance p-value of .251, fail to predict 1930 segregation.[37] However in 1950 (as well as 1970 and 1990) the instruments are significant predictors of segregation, as shown in the next three columns.

[35] Income segregation is insignificant in the U.S. relative to racial segregation; the highest dissimilarity index for income in 1990 is .28, while the *lowest* 1990 dissimilarity for African-Americans is .33.
[36] For those historians who put the end date at 1970.
[37] The sample for the last four columns of Table II includes those MSA for which: 1) Cutler, Glaeser and Vigdor (1999) calculate 1930 segregation indices and 2) Ananat (2007) calculates RDI. Note that for 22 of these 42 MSA's Cutler, Glaeser and Vigdor (1999) do not provide 1950 segregation indices.

One limitation of this identification strategy is that we can only create the instruments for those MSAs which meet two criteria: 1) They are not located in former slave states and 2) Ananat (2007) was able to locate an historical map to calculate the RDI for the MSA.[38] Therefore our 2SLS results will be limited to only 121 of the 312 MSAs in our full sample.[39] In terms of segregation, representative race and representative voting patterns, the full sample and the 2SLS sub-sample are quite comparable.[40] The final three columns of Table I provide the means for the 2SLS sample. However, reflecting the fact that slightly more than half of Blacks continue to live in the South,[41] percent Black is smaller in the 2SLS sample than in the full sample. In the next section we detail our results.

III Results

III.A. Political Efficacy

Segregation had a negative impact on Black civic efficacy in the 1990s, results in Table IV indicate. Each cell in the table presents the coefficient on the dissimilarity index from a different regression specification. Each row reflects a different outcome; each column reflects a different specification. The first three columns provide the results from OLS regressions on the full sample, the non-South sample and the 2SLS sample. While these results are not interpretable causally due to the endogeneity of segregation, they serve to indicate the extent of generalizeability of our 2SLS results. As we move from a sample of MSAs from across the nation to the non-South sample, although all results are

[38] There are 77 non-Southern MSAs for which Ananat (2007) could not locate a map.
[39] See Appendix Table I for a list of the MSAs included in the 2SLS analysis.
[40] With the exception of the fraction Black candidates in 1990. The 1990 redistricting created 13 new safe Black districts, all in southern states. (Clayton 2000).
[41] Fifty-four percent of Blacks lived in the South in March 2004. (U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement 2004, Racial Statistics Branch, Population Division.)

insignificant, coefficients vary considerably. One coefficient changes sign. Three of five change by an order of magnitude. As we noted in the data and methods section, Ananat (2007) was not able to locate historical maps for all non-southern MSAs. As we move from column 2 (all non-southern MSAs) to column 3 (non-southern MSAs for which we have the RDI instrument), coefficients are more stable. Thus while our results can likely be generalized to the non-South, generalizing to MSAs in the South seems less tenable on empirical as well as theoretical grounds. Previous research has found that the politics of race differs between the South and the non-South (Massey and Denton 1994; Cameron, Epstein and O'Halloran 1996).

Column 4 provides evidence of the causal impact of segregation on Black civic efficacy outside of the South. Regardless of how efficacy is measured, the relationship between segregation and efficacy is negative. The first row of the table indicates that as segregation increases, Blacks seem to participate less in the political process. The -.204 in the first row of the table implies that as segregation increases by .10, the fraction of Black House candidates decreases by .02. Alternatively as segregation increases by a standard deviation the fraction of Black House candidates decreases by .22 standard deviations. Although the impact of segregation on Black House candidates is not significant, the coefficients from specifications using our other outcome measures are all significant at the five percent level. A one standard deviation increase in segregation in an MSA causes the fraction of Black representatives to fall by a significant .46 standard deviations, the fraction of Democratic representatives to fall by a significant .71 standard deviations, the average representative's LCCR score to fall by a significant .75 standard deviations and the average representative's propensity to vote in accordance with the Congressional

Black Caucus to fall by a significant .72 standard deviations. For aid in interpreting the score results, note that a standard deviation in LCCR (or CBC) score separates a staunch Republican like former Representative Robert Barr (R-GA), who was a leader in the fight to impeach President Clinton, from a moderate Republican like former Representative Robert Simmons (R-CT), who lost his seat in the 2006 election. Moderate Democrat former Representative Gary Condit (D-CA) is also separated by a standard deviation on these scores from Representative Nancy Pelosi (D-CA), the first female speaker of the House of Representatives.[42]

The remainder of the table provides the results of various checks to our basic specification. As stated previously, demographic characteristics of an area have been shown to correlate with both political participation and preference. In column 5 we add controls for percent under 18, percent in poverty, percent employed and percent with a high school diploma to our basic specification. If our instruments are truly uncorrelated with the error in our naïve OLS regression of efficacy on segregation, then the inclusion of these demographic characteristics should have little effect on our 2SLS coefficients. Column 5 indicates that this is indeed the case: coefficients change only slightly from column 4 to column 5.[43] (Results are also robust to the exclusion of the control for percent Black.)

The number of Blacks living in each MSA varies considerably. Therefore it is possible that our column 4 results reflect a relationship that predominantly prevails in MSAs in which few Blacks actually live. We investigate whether such heterogeneous treatment effects are driving our findings in specifications reported in column 6.

[42] These differences calculated based on the 107th Congress, the most recent term included in our analysis.
[43] See Appendix Table II for a full list of coefficients and standard errors from the expanded specification.

Specifications reported in this column are the basic specifications weighted by the log of the number of Black residents of the MSA. We choose to weight in logs rather than levels because we are uncomfortable allowing an MSA's influence on our estimation to be proportional to the size of its Black population due to the presence of three outlier MSAs with Black populations an order of magnitude greater than the sample mean.[44] Our results are robust to the change from the unweighted to the weighted specification as indicated by the results of column 6. Thus our basic results do not seem to be driven by MSAs in which few Blacks actually reside. (Results are also robust to the exclusion of the three outlier MSAs.)

As indicated in the data and methods section, district outcomes are averaged to form MSA level outcomes. For the 1990s only, we have data that allow us to population-weight our averages to form a better measure of the representation that the average MSA resident faces.[45] The final column of the table presents the coefficients from specifications which use the population-weighted measures. In terms of both magnitude and significance, coefficients are little changed from column 4 to column 7, indicating that our column 4 results are not driven by our weighting procedure. Thus we can be more confident in our results as we trace the impact of segregation back through the 1970s.

Looking back across decades, we learn that segregation has had a consistent negative impact on Black civic efficacy since the first redistricting following the Voting Rights Act. See Table V Panel A for these results. Once again, each cell represents the

[44] In the 2SLS sample the average number of Blacks in an MSA in 1990 is approximately 50,000. Three MSAs—Detroit, Philadelphia and Los Angeles—have Black populations of greater than 500,000. Level weighted regressions would essentially be driven by these three MSAs.
[45] Weights are based on initial—1992—redistricting.

coefficient on the dissimilarity index from a different regression. Each row presents a different outcome; each column presents the results from the basic specification using data from a different decade. While the impact of segregation on the fielding of Black candidates and the election of Black representatives is not consistently negative, nor significant, the impact of segregation on Black substantive representation remains significantly negative throughout the thirty year time frame. Across the three decades, point estimates indicate that a one standard deviation increase in segregation leads to a fall in the liberal leaning of the representative (as measured by political party, LCCR scores and CBC agreement) of three-quarters to one full standard deviation. While the point estimates suggest that this negative relationship shrinks in magnitude over time, for none of these three outcomes can we distinguish between the 1970 and the 1990 coefficient statistically. Our pattern of results is robust to limiting our instruments to RDI and their interaction of RDI*distance while including the distance main effect as a control. See Appendix Table III for these results.

III.B. Mechanisms

Individuals' political viewpoints are aggregated to form area-wide political outcomes in a multi-staged process. First, a citizen must form a viewpoint. Second, that citizen must decide whether it is worth his or her while to make the effort to express that viewpoint in the voting booth. Thirdly, the citizen's vote (if cast) must be aggregated with others' votes according to institutional regulations to determine the winning

policy.[46] (In the case of House races, the institutional regulations say that votes are summed, and representatives are therefore chosen, by district.)

At what point(s) in this process are Blacks in more segregated MSAs falling behind those Blacks living in less segregated MSAs? Is it that Black/non-Black political viewpoints are more divergent in more segregated metropolitan areas? Are Blacks' feelings of political efficacy (and therefore their belief in the value of voting) decreasing in segregation? Are non-Blacks' feelings of efficacy increasing in segregation? Or are the political institutions—the districts—designed in a manner that is less conducive to Black substantive representation in more segregated areas?

In the remainder of the paper we trace the process backward from political outcomes to the development of political viewpoints to examine at what point(s) segregation causes Blacks to be less efficacious.

III.B.1. Redistricting

While the process of redistricting varies from state to state, in no state is the process determined orthogonally to the racial composition of the neighborhoods within. Federal case law stipulates that districts be compact and contiguous (Stokes 1998). Therefore the extent of segregation in neighborhoods may mechanically impact upon the racial composition of districts. Given that it is a federal requirement that redistricting schemes provide "equality of opportunity" for minority voters (Stokes 1998) there is little doubt that state legislatures pay attention to the racial makeup of the districts when deciding whether to approve any proposed districting plan. Thus rather than treat the

[46] We ignore a fourth step where the elected politician must choose whether to enact the policy that the people desire. We assume, given its repeated game nature, that House members do enact the will of the people on average.

districts as exogenous, we empirically estimate the relationship between Black/non-Black racial segregation and district racial composition.

There is a long literature in political science debating the implications of district demographic composition for Black political efficacy. (See Grofman and Davidson 1992 for an overview.) In the most extensive empirical examination of the question to date, Cameron, Epstein and O'Halloran (1996) investigate the relationship between a district's percentage of Black voters and its representative's party and LCCR score. Using their estimates in simulation, the authors conclude that in all parts of the United States with the exception of the South[47] the optimal strategy for maximizing Black representation in an area is to equalize the Black population across districts within that area.[48]

In Table V Panel B we examine the extent to which segregation predicts the spread of Blacks in districts throughout a metropolitan area.[49] It is possible that Blacks are less efficacious in more segregated areas because, following the reasoning of Cameron, Epstein and O'Halloran (1996), Blacks are confined to more heavily Black districts in these metro areas. To investigate this supposition we continue to run models of the form of Equation 5 where our outcomes are now measures of the demographic characteristics of the districts within the MSA.[50] The first row of the panel examines the influence of segregation on the fraction of districts in which Blacks comprise less than 10

[47] In the South, the optimal strategy, according to Cameron, Epstein and O'Halloran (1996), is to create as many districts of about 47% Black as possible.
[48] Cameron, Epstein and O'Halloran (1996) used states as the area of investigation; however, as one vote in Congress is equal to any other vote in Congress, the aggregation of representatives to states in no way drives their simulation results. Therefore their results should be applicable to delegations that represent metropolitan areas as well. Nonetheless, the political reality is that the redistricting process is controlled by the state legislature and districts must fall within state boundaries. So for MSAs that cross state boundaries, it may not be possible to equalize percent Black throughout the MSA. This constraint, however, does not alter the relationship between equalization of percent Black within an area and Black efficacy.
[49] See Appendix Table IV for means to accompany this Table V Panel B.
[50] Because of data limitations, we are unable to measure the percent Black for each redistricting that occurs. Therefore we measure these outcomes once per decade, at the time of the first election following the most recent census.

percent of the population. Blacks are 5-6 percent of the population in the average district in the 2SLS sample. Thus negative coefficients on segregation in these regressions would indicate that in more segregated MSAs Blacks are less likely to be spread evenly across districts, which would be one explanation for their efficacy decreasing in segregation. However, as the results of the first row of the table indicate, segregation is positively and significantly associated with the fraction of districts that are under 10 percent Black in all three sample periods. We consider districts that are more than 10 percent Black as "heavily" Black for our northern sample, where only 5-10 percent of districts fall in this category. But there is heterogeneity in percent Black amongst this group of districts. In an un-tabled regression we create dummies for 0-10, 10-25, 25-50 and 50 or more percent Black to allow for the impact of segregation to differ across the three categories of "heavily" Black districts. We find no such variation. Blacks in more segregated MSAs are significantly less likely to be living in districts that are 10-25 percent Black. Blacks in more segregated MSAs are less likely, but not significantly so, to be living in districts that are 25-50 and 50 percent or more Black with the exception of 50 percent or more in the 1970s where the relationship is positive and insignificant. Thus we find no evidence that segregation lessens Black efficacy by isolating Blacks in heavily Black districts.

In the final row of Table V we measure the spread of Blacks across districts within an MSA using a different metric: the standard deviation of the districts' percent Black. (The limitation of this measure is, of course, that it is not defined for MSAs whose residents are all assigned to the same district.) Once again, we find no evidence of segregation increasing the variation in percent Black across districts. In the 1970s and 1980s there is no significant relationship between segregation and standard deviation of

percent Black. (The coefficient is positive in the 1970s and negative in the 1980s.) In the 1990s the standard deviation of percent Black is significantly decreasing in segregation, implying once again that in this decade the degree to which Blacks are spread evenly across districts is increasing in segregation. Cameron, Epstein and O'Halloran (1996) assert that substantive representation of Blacks is decreasing in the standard deviation of district percent Black in an area. Assuming their assertion correct, the results of Table V Panel B provide no evidence that district configuration is the mechanism by which segregation has lessened Black political efficacy across three decades.[51]

III.B.2 Voter Turnout

A second possible mechanism by which segregation may impact Black civic efficacy is through political participation, particularly in the form of voting. Ananat (2007) shows that segregation significantly increases the rate of poverty amongst Blacks while significantly decreasing the poverty rate amongst Whites. We know from previous work that lower-income subgroups are less likely to vote. (See for example Leighly and Nagler, 1992.) Thus it may be the case that segregation decreases Black voter turnout and/or increases non-Black voter turnout, resulting in a decrease in Black civic efficacy.[52]

We examine the impact of segregation on voting behavior (as well as political attitudes) using data from the National Election Studies (NES), a biennial survey of

[51] We also investigated the possibility that non-MSA residents who share districts with MSA residents may be more (less) sympathetic to Black political interests and therefore driving the relationship between segregation and Black civic efficacy. However we find no support for such a hypothesis. The degree to which districts cross MSA boundaries is not significantly correlated with MSA segregation. We also find no evidence that more segregated MSAs are carved into significantly more/fewer districts than less segregated MSAs. These findings are not surprising given that our results in Table IV are not altered significantly by population weighting outcomes.

[52] This is just one mechanism by which segregation could impact turnout. Coate and Conlin's (2004) group rule utilitarian model suggests that segregation could impact turnout because in a segregated area it may be easier to enforce group norms.

United States residents of voting age. Using these data we run 2SLS models, separately for Black and non-Black respondents, of the following form:

(6) $\text{outcome}_i = \alpha\iota + \beta_1(\text{segregation})_i + \beta_2(\text{tracklength})_i + u_i$.

(7) $\text{segregation}_i = \alpha\iota + \delta_1(\text{RDI})_i + \delta_2(\text{distance})_i + \delta_3(\text{RDI*distance})_i + \gamma_1(\text{tracklength})_i + u_i$[53]

where segregation is now the predicted level of segregation in the respondent's MSA.[54] We continue to conduct our analysis separately for the three decades.[55]

Across decades, we find no significant relationship between segregation and voter turnout of either Blacks or non-Blacks. (See the first row of Table VI for these results). Further, point estimates do not support the contention that the segregation/civic efficacy link runs through turnout. Coefficients suggest a negative impact of segregation on the turnout of non-Blacks in all three decades. For Black turnout point estimates are negative in all but the 1980s.

A limitation of the NES is that it does not over-sample Blacks. Not surprisingly, therefore, the standard errors in the Black specifications are two to four times the magnitude of those in the non-Black specifications. We check the robustness of our Black results, when possible, by turning to the National Survey of Black Americans (NSBA).[56] The NSBA, fielded in 1979-1980,[57] examined Black Americans' feelings and experiences

[53] The first stage results are found in Appendix Table V.
[54] We use respondents' states and congressional districts to match them to our time invariantly defined MSAs. In cases where a district lies in more than one MSA we define the respondent's level of segregation as the average segregation in the MSAs. Reported regression results are thus clustered at the district level. However, the significance of our results is robust to clustering at the state level.
[55] We define the survey years 1972-1980 as the 1970s, 1982-1990 as the 1980s and 1992-2000 the 1990s.
[56] Using the NSBA we continue to run models of the form of equations 6 and 7. The first stage results using these data are reported in Appendix Table V.
[57] The NSBA is actually a four wave panel study. We present results from only the first wave because due to attrition the Black 2SLS sample size falls below that of the NES by the second wave. However, the qualitative results on both outcomes explored in these data are unchanged from wave to wave.

in a variety of contexts including the political. Respondents were asked, for one, whether they voted in the most recent presidential election. The final cell in Table VI row 1 shows that an increase in segregation of one standard deviation[58] increased Black voter turnout by a significant .29 standard deviations. To review, the NES data indicate no relationship between segregation and turnout. The NSBA data show that Black turnout was increasing in segregation, at least in the presidential election of 1976. Thus in neither dataset do we find any support for the supposition that segregation decreases Black efficacy by increasing non-Black turnout and/or decreasing Black turnout.

III.B.3. Political Attitudes

Thus far our findings suggest that neither district configuration nor racial variation in turnout accounts for segregation's negative impact on Black political efficacy. A third explanation is that political views of Blacks and non-Blacks are more divergent in more segregated areas. Blacks are not a majority of residents in any time or place in our sample frame. Therefore, as non-Black political views move increasingly far from Black political views, by definition, Blacks move farther away from the mean (and likely the median) viewpoint. We examine the evidence for the divergent views explanation in the remainder of Table VI. In this table we continue to present the results from models of the form of equations 6 and 7 using the NES (and NSBA where possible.)

In the second panel of the table entitled "Attitudes toward Race" we explore the impact of segregation on racial tolerance and support of policies which benefit Blacks. Our first outcome is non-Black respondents' feelings about Blacks measured on a scale of 0 (very negative) to 100 (very positive). The 6.857 coefficient in the 1970s regression

[58] The dissimilarity index has a mean of .76 and a standard deviation of .11 for this sample. The means (and standard deviations) for the NSBA outcomes are found in Appendix Table VI.

is unfortunately too imprecise to be informative. However, the 1980s and 1990s coefficients say that an increase in segregation of one standard deviation results in a significant decrease in non-Black feelings about Blacks of .1 and .2 standard deviations respectively.[59] In the remainder of the row we examine Black feelings toward Whites (the largest non-Black subgroup). Point estimates suggest that feelings about Whites are increasing in segregation in the 1970s and 1980s and decreasing in segregation in the 1990s. However, all estimates are far too imprecise to be informative.

Next, we examine how segregation impacts feelings about race-based policy. The focal question asks respondents whether they support government policies to improve the social and economic position of Blacks. Respondents were asked to place themselves on a seven point scale from a low of 1 (Government should help Blacks) to a high of 7 (Blacks should help themselves).[60] Non-Blacks have a mean score for the measure of between four and five across decades. However, across time, Blacks increasingly support the view that Blacks should help themselves (from a mean of 2.3 in the 1970s to 3.8 in the 1990s). Point estimates of the impact of segregation on this belief suggest that the tendency, among non-Blacks, to believe that Blacks should help themselves is increasing in segregation across decades. The relationship is significant in the 1980s and 1990s, when a one standard deviation increase in segregation predicts an increase in this belief of .10 and .13 standard deviations respectively. Results for Blacks, though never significant, are opposite signed from non-Blacks in the 1980s and 1990s. Thus the "Attitudes toward Race" panel provides evidence that the relationship between

[59] See Appendix Table VI for means and standard deviations to accompany Table VI.
[60] Prior to 1988, the question asked about "Blacks (Negroes) and other minority groups." Beginning in 1988, the question focused solely on Blacks.

segregation and Black civic efficacy may be driven by non-Black support for Blacks and policies that favor Blacks, as this support is decreasing in segregation.

Next we look at the impact of segregation on political attitudes more generally. The first outcome of interest is the respondent's view of how liberal/conservative s/he is on a scale from 1 (extremely liberal) to 7 (extremely conservative). Across decades, the non-Black mean on this measure has hovered around 4.3 while the Black mean has grown from 3.3 to 3.8. Reported in the first row under "Political Attitudes," point estimates from specifications using this outcome suggest that, across decades, polarization in political views is increasing in segregation. While *conservative* identification is increasing in segregation amongst *non-Blacks*, *liberal* identification is increasing in segregation amongst *Blacks*. The relationship is significant only for non-Blacks in the 1980s and 1990s, where a one standard deviation increase in segregation increases mean tendency toward conservatism by .13 and .19 standard deviations respectively.

The second more general political attitude we examine is party identification. The NES asks respondents to place themselves on a scale from 1 (strong Democrat) to 7 (strong Republican). Not surprisingly, given Blacks' tendency to vote Democratic, across decades, the mean of this measure is approximately four for non-Blacks and two for Blacks. Using this outcome, we find evidence that segregation increases polarization only in the 1970s. In this decade, a one standard deviation increase in segregation significantly increases non-Black party identification by .41 standard deviations[61] and significantly decreases Black party identification by .3 standard deviations. In the remaining decades, coefficients are much smaller and insignificant for all respondents. In the final row of the

[61] The result for Blacks is robust to a change in dataset to the National Survey of Black Americans.

table we see that identification translates into (self-reported) votes. In the 1970s a one standard deviation increase in segregation significantly decreases the non-Black tendency to have voted Democrat in the most recent House election by .78 standard deviations. While the 1970 coefficient on segregation in the Black specifications suggests a positive impact on the propensity to vote for the Democrat, this coefficient, like the remaining coefficients in the row, is insignificant.

Thus the results of Table VI suggest that political attitudes may explain the relationship between segregation and decreased Black civic efficacy. We find evidence that non-Black support of policies that favor Blacks is decreasing in segregation. Blacks are more likely to identify as Democrats and as liberals throughout the time period. However, we find evidence that Black/non-Black divergence on party (only in the 1970s) and political placement is increasing in segregation. This evidence points not only to an explanation for decreased efficacy for Blacks in more segregated areas, but also suggests that Blacks in the most segregated areas are less efficacious than our Table V results suggest. Black liberal identification is increasing in segregation, while the tendency for representatives to vote liberally on issues of interest to Blacks is decreasing in segregation.

Such divergence could come about in either or both of two ways: 1) Increased contact with Blacks in less segregated cities could cause non-Blacks to hold more favorable views toward policies which benefit Blacks. This could arise because of interactions with Black neighbors as postulated by the contact hypothesis[62] or from a feeling that they will benefit more directly from policies that benefit Blacks when they

[62] See for example Brophy (1945), Deutsch and Collins (1951), Jackman and Crane (1986), Putnam (1966) and Wilner et. al. (1952).

live nearer to Blacks. 2) Alternatively, the link between segregation and efficacy may be due to selection. Non-Blacks who hold the least favorable views toward policies which Blacks support may choose to live in the most segregated cities.

Distinguishing between these two mechanisms is important for understanding the impact of segregation on Black political efficacy nationally. If segregation causes decreased efficacy through lack of contact, then increased segregation in MSA 1 will decrease Black efficacy in MSA 1 and therefore Black efficacy nationally, on average. If segregation causes decreased efficacy through selection, then increased segregation in MSA 1 will decrease efficacy in MSA 1 but may increase efficacy in MSA 2 as those who hold the least favorable views of policies that Blacks support move from MSA 2 to MSA 1. Distinguishing between contact and selection, however, is not important for understanding the effects of segregation on those individuals who face budget constraints that prevent their relocating from MSA 1 to MSA 2.

In Table VII we investigate whether selection and/or contact explain the impact of segregation on Black political efficacy. The first three columns of the table focus on selection. In these columns, we repeat the attitudinal analysis of Table VI; however, we limit the sample to those non-Black individuals[63] over the age of 30 who moved to the community[64] within the past two years. In other words, we focus on adults who recently selected to live in the area. Looking at the first measure, the Black thermometer, we find in both the 1970s and 1980s, the relationship between selecting a more segregated area and attitude toward Blacks is insignificant. However, in the 1990s we find that those who

[63] We do not perform this exercise for Blacks due to the small sample size.
[64] The NES asks, "How long have you lived here in your present city/town/township/county?" The measure is less than ideal for our purposes as a respondent may move to a different county but remain in the same MSA.

have chosen more segregated areas have significantly more negative ratings of Blacks. In fact, for all five attitudinal outcomes we find that individuals who select more segregated areas hold significantly more conservative views than those who select less segregated areas. At least for the 1990s, it appears that selection does play a role in linking segregation and decreased Black political efficacy.

In the final three columns of Table VII we explore whether contact (or lack thereof) is another path from segregation to efficacy. The ideal methodology for exploring this question would be to randomly assign individuals to communities. Boisjoly et. al (2006) use such a methodology to find that white college students, who, in their first year of school, were randomly assigned Black roommates, hold more positive views of affirmative action several years after college entry than those who were assigned white roommates. But whether these results are generalizeable to the community level is unknown. Unable to randomly assign individuals to MSAs, we focus our contact analysis on non-Black individuals thirty years of age and younger.[65] Younger individuals have had less of an opportunity to leave the locale that their parents chose for them and to move to their ideal community. Clearly two limitations of this methodology are that: 1) Some younger individuals have relocated from their parents' hometowns (or made a deliberate decision to stay) and 2) The parents did select these communities. For these reasons the results of the second half of Table VII are only suggestive.

The Table VII column 4-6 results suggest that contact affects non-Blacks' attitudes toward Blacks. We see in both the 1980s and 1990s that young people who live in more segregated areas have significantly less positive views of Blacks. Concerned that

[65] The somewhat more convincing strategy of relating attitudes to MSA of birth is not possible because the NES identifies only state, but not MSA or county or district, of birth.

these results could be driven by the young people who actually selected their communities, we reran this analysis focusing on 1) those 25 and under and 2) those 30 and under who have lived in the community since their teens. The thermometer results are robust to both changes in sample. The results on the remaining attitudinal outcomes are less informative. Coefficients on the specifications on government aid (1980s and 1990s), conservatism (1990s) and voting Democrat (1970s) are not significantly different than the significant results we find for the full sample, suggesting that those who were placed in more segregated communities developed more conservative attitudes than those placed in less segregated communities. However, results are imprecise and insignificant. Thus the results of Table VII show that selection (at least in the 1990s) plays a role in the impact of segregation on non-Black attitudes and therefore Black political outcomes. The table provides some evidence, particularly in regards to non-Blacks' views of Blacks, that segregation also impacts attitudes through decreased contact amongst the races.

IV Conclusion

Blacks in more segregated metropolitan areas fare worse than their counterparts in less segregated areas on a variety of economic outcomes. In this paper, we explore the connection between segregation and political efficacy, an outcome that to our knowledge has not been studied in relation to segregation.

We find that Black political efficacy (as measured by the ability to elect representatives who vote in accordance with the preferences of Black voters) is decreasing in segregation. This result does not arise because of differential district configuration or because of differential voter turnout by race. We do find evidence that the efficacy result is due to variation in attitudes. Black/non-Black political views are

more disparate the greater the level of segregation in an area. Because Blacks are a minority in every MSA, such divergence means that the average Black voter holds a viewpoint that is farther from the average voter overall. Given the belief in this country in the ability to effect change through political activity, our results may explain in part why Blacks' economic outcomes are decreasing in segregation

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Table I: Sample Means by Decade
(Standard Deviations in Parentheses)

	Full Sample			IV Sample		
	1970s	1980s	1990s			
Independent Variable of Interest						
Dissimilarity Index	.69 (.12)	.60 (.13)	.56 (.11)	.70 (.10)	.60 (.13)	.57 (.14)
Dependent Variables						
Fraction of House general elections with Black candidates[1]	NA	.03 (.07)	.07 (.14)		.02 (.05)	.04 (.13)
Fraction Black Representatives[2]	.01 (.03)	.01 (.03)	.04 (.13)	.01 (.01)	.01 (.03)	.02 (.08)
Fraction Democratic Representatives[2]	.60 (.35)	.56 (.37)	.43 (.34)	.51 (.33)	.50 (.37)	.41 (.36)
Average Leadership Conference on Civil Rights (LCCR) score[2]	.47 (.25)	.55 (.25)	.46 (.25)	.57 (.24)	.61 (.26)	.51 (.27)
Average agreement with Congressional Black Caucus[2]	.60 (.11)	.62 (.15)	.59 (.15)	.63 (.12)	.64 (.17)	.60 (.17)
Control						
Percent Black	.09 (.09)	.10 (.09)	.10 (.09)	.05 (.04)	.05 (.05)	.06 (.05)
Number of MSAs in Sample	312	312	312	121	121	121

Notes:
1 The decades are defined here as the elections of 1972-1980, 1982-1990 and 1992-2000.
2 The decades are defined here as the Congresses that spanned the years 1973-1982, 1983-1992, 1993-2002.

Table II: First Stage, by Decade

	Study Sample			Constant 1930 Sample			
	1970	1980	1990	1930	1950[2]	1970	1990
Railroad Division Index	.273** [.01]	.392** [.121]	.388** [.134]	-.006 [.224]	.533 [.432]	.214*** [.079]	.220* [.133]
Distance (thousands of miles)	.175* [.11]	.27** [.134]	.169 [.137]	-.208 [.257]	.224 [.328]	.085 [.106]	-.056 [.137]
Railroad Division Index*Distance	-.237 [.149]	-.473** [.191]	-.376* [.195]	.332 [.47]	-.029 [.454]	-.012 [.221]	.032 [.242]
P>F (joint significance of above)	.042	.001	.000	.251	.053	.051	.000
Control for percent Black	yes	yes	yes				
Control for track length	yes	yes	yes	yes	yes	yes	yes
N	121	121	121	42	20	42	42

Notes: Robust standard errors in brackets.

1 The constant 1930 sample are those MSAs for which Cutler, Glaeser and Vigdor (1999) calculate segregation indexes and for which Ananat (2007) calculates RDI.

2 For 22 of 42 MSAs in the sample Cutler, Glaser and Vigdor (1999) do not provide 1950 segregation indices.

Table III: Relationship Between Instruments and Democratic share of Presidential Vote 1900-1920

	1900	1904	1908	1912	1916	1920
Railroad Division Index	0.127	-0.031	0.054	0.04	0.092	0.039
	[0.139]	[0.107]	[0.109]	[0.159]	[0.103]	[0.094]
Distance (thousands of miles)	11.84	-12.929	-3.072	27.554	12.833	-2.885
	[23.553]	[10.199]	[10.600]	[30.216]	[10.507]	[9.639]
RDI*distance	-26.172	4.062	-3.367	-10.345	-17.098	-3.075
	[34.051]	[13.800]	[13.714]	[42.389]	[14.191]	[13.544]
Sample size	94	94	96	99	99	99

Notes: The sample does not include New England MSAs. All specifications control for length of track. Robust standard errors in brackets.

Table IV: Impact of Segregation on Black Political Efficacy, 1990s
(Each cell represents the coefficient on the dissimilarity index from a different regression.)

	OLS			2SLS			
	Full Sample (1)	Non-South (2)	2SLS Sample (3)	Basic (4)	Expanded (5)	Log weighted (6)	Outcomes population weighted (7)
Outcome							
Fraction Black House candidates	-0.043 [0.056]	-0.149 [0.118]	-0.202 [0.169]	-0.204 [0.142]	-0.155 [0.150]	-0.271 [0.155]*	-0.196 [0.160]
Fraction Black Representatives	-0.018 [0.058]	-0.162 [0.120]	-0.217 [0.171]	-0.261 [0.130]**	-0.237 [0.127]*	-0.305 [0.146]**	-0.279 [0.140]**
Fraction Democratic Representatives	-0.166 [0.147]	-0.02 [0.234]	0.013 [0.294]	-1.819 [0.807]**	-1.59 [0.851]*	-1.669 [0.774]**	-1.834 [0.836]**
Average Leadership Conference on Civil Rights score	0.055 [0.109]	-0.016 [0.171]	-0.012 [0.214]	-1.438 [0.607]**	-1.47 [0.633]**	-1.425 [0.583]**	-1.469 [0.628]**
Average agreement with Congressional Black Caucus	-0.024 [0.065]	-0.027 [0.106]	-0.025 [0.131]	-0.876 [0.364]**	-0.853 [0.380]**	-0.85 [0.351]**	-0.916 [0.379]**
N	312	190	121	121	121	121	121

Notes: Robust standard errors in brackets. All regressions control for percent Black. Specifications 4-7 additionally control for length of track. Specification 5 controls additionally for percent of population under 18, percent poverty, percent employed and percent with a high school diploma**.** ***denotes significance at the 1 percent level, ** at the 5 percent level and * at the 10 percent level.

Table V: Two Stage Least Squares Estimates of the Impact of Segregation on Black Political Efficacy Across Decades
(Each cell represents the coefficient on the dissimilarity index from a different regression.)

	1970s	1980s	1990s
Panel A			
Fraction Black House candidates	NA[1]	-0.216 [0.110]*	-0.204 [0.142]
Fraction Black Representatives	0.022 [0.091]	-0.132 [0.090]	-0.261 [0.130]**
Fraction Democratic Representatives	-3.743 [1.475]**	-2.003 [0.824]**	-1.819 [0.807]**
Average Leadership Conference on Civil Rights Score	-2.426 [1.015]**	-1.494 [0.569]***	-1.438 [0.607]**
Average Agreement with Congressional Black Caucus	-1.183 [0.521]**	-0.916 [0.384]**	-0.876 [0.364]**
Panel B			
Fraction of districts that have percent Black	1.533 [0.639]**	0.895 [0.321]***	0.933 [0.258]***
Standard deviation of district percent Black	0.185 [0.173] [N=68]	-0.254 [0.176] [N=80]	-0.337 [0.191]* [N=77]

Notes: Robust standard errors in brackets. All specifications control for percent Black and length of track. Sample size=121 except where noted. ***denotes significance at the 1 percent level, ** at the 5 percent level and * at the 10 percent level.

1 Fraction Black House candidates not available for the 1970's.

Table VI: Two Stage Least Squares Estimates of the Impact of Segregation on Individual Political Behaviors and Attitudes
(Each cell represents the coefficient on the dissimilarity index from a different regression.)

	National Election Studies						National Survey of Black Americans
	Non-Blacks			Blacks			Blacks
	1970s	1980s	1990s	1970s	1980s	1990s	1979-1980
Outcome							
Political Behaviors							
Voted in most recent election[1]	-0.48 [0.680]	-0.082 [0.175]	-0.108 [0.140]	-0.095 [0.936]	0.852 [0.714]	-1.003 [0.898]	1.329 [0.580]**
Attitudes toward Race							
Black/White Thermometer (0 to 100)	6.857 [24.440]	-18.724 [7.293]**	-27.138 [9.524]***	78.142 [72.266]	2.073 [29.841]	7.448 [24.977]	
Belief that government should aid Blacks (1) through Blacks should help themselves (7)	0.155 [2.811]	1.35 [0.668]**	1.669 [0.664]**	4.439 [3.185]	-2.908 [3.123]	-0.037 [1.932]	
Political Attitudes							
Identification as extremely liberal (1) through extremely conservative (7)	3.292 [2.194]	1.605 [0.603]***	2.004 [0.873]**	-2.445 [4.543]	-2.633 [1.715]	-1.238 [2.315]	
Identification as strong Democrat (1) through strong Republican (7)[2]	10.058 [3.623]***	-0.164 [0.983]	1.578 [1.103]	-6.143 [2.642]**	1.035 [2.366]	0.478 [1.415]	-0.726 [0.349]**
Voted for the Democrat in most recent Congressional election	-4.911 [1.812]***	0.053 [0.601]	-0.692 [0.453]	1.887 [1.867]	-1.522 [1.349]	0.176 [0.362]	

Notes: Robust standard errors clustered at the congressional district level (or the MSA level for NSBA specifications) in brackets. All specifications control for length of track. ***denotes significance at the 1 percent level, ** at the 5 percent level and * at the 10 percent level.
1 The National Survey of Black Americans asks whether the respondent voted in the most recent presidential election.
2 The National Survey of Black Americans' outcome is a non-Democrat indicator.

Table VII: Two Stage Least Squares Estimates of the Impact of Segregation on non-Black Individual Political Behaviors and Attitudes, Selection vs Environment

(Each cell represents the coefficient on the dissimilarity index from a different regression.)

	Selection			*Contact*		
	Moved to community within past two years, over age 30			30 and under		
	1970s	1980s	1990s	1970s	1980s	1990s
Outcome						
Attitudes toward Race						
Black/White Thermometer (0 to 100)	28.865 [53.689] [N=147]	-17.369 [18.674] [N=237]	-57.944 [22.446]** [N=245]	51.418 [36.724] [N=731]	-30.176 [13.508]** [N=853]	-41.8 [14.055]*** [N=498]
Belief that government should aid Blacks (1) through Blacks should help themselves (7)	9.497 [14.079] [N=195]	2.302 [1.802] [N=246]	3.99 [1.622]** [N=227]	-1.832 [2.668] [N=903]	0.841 [0.911] [N=825]	1.821 [1.405] [N=463]
Political Attitudes						
Identification as extremely liberal (1) through extremely conservative (7)	0.28 [11.526] [N=181]	0.765 [2.028] [N=220]	5.743 [1.907]*** [N=202]	-0.026 [2.313] [N=783]	0.664 [0.841] [N=693]	2.16 [1.680] [N=397]
Identification as strong Democrat (1) through strong Republican (7)	11.092 [11.940] [N=227]	1.376 [2.513] [N=263]	4.306 [1.732]** [N=267]	3.286 [2.818] [N=1022]	-1.56 [1.219] [N=898]	1.241 [1.813] [N=540]
Voted for the Democrat in most recent Congressional election	0.278 [5.088] [N=98]	1.113 [1.248] [N=124]	-1.63 [0.815]** [N=127]	-2.862 [1.897] [N=414]	0.214 [0.848] [N=297]	-0.288 [0.659] [N=221]

Notes: Robust standard errors clustered at the congressional district level in brackets. All specifications control for length of track. ***denotes significance at the 1 percent level, ** at the 5 percent level and * at the 10 percent level.

Appendix Table I: MSAs included in the 2SLS Analysis

Akron, OH
Albany-Schenectady-Troy, NY
Altoona, PA
Anaheim-Santa Ana, CA
Ann Arbor, MI
Atlantic City, NJ
Aurora-Elgin, IL
Battle Creek, MI
Beaver, PA
Benton Harbor, MI
Binghamton, NY
Bloomington, IN
Boise City, ID
Boulder-Longmont, CO
Bridgeport-Milford, CT
Brockton, MA
Buffalo, NY
Burlington, VT
Canton, OH
Champaign-Urbana-Rantoul, IL
Chico, CA
Cincinnati, OH-KY-IN
Colorado Springs, CO
Danbury, CT
Dayton-Springfield, OH
Decatur, IL
Des Moines, IA
Detroit, MI
Duluth, MN-WI
Elmira, NY
Erie, PA
Eugene-Springfield, OR
Fall River, MA-RI
Fitchburg-Leominster, MA
Flint, MI
Fort Collins-Loveland, CO
Glens Falls, NY
Grand Forks, ND-MN
Grand Rapids, MI
Hamilton-Middletown, OH
Harrisburg-Lebanon-Carlisle, PA
Hartford, CT
Iowa City, IA
Jackson, MI
Jamestown-Dunkirk, NY
Janesville-Beloit, WI
Johnstown, PA
Joliet, IL
Kalamazoo, MI
Kankakee, IL
Lancaster, PA
Lansing-East Lansing, MI
Las Cruces, NM
Lawrence, MA
Lawton, OK
Lima, OH
Lorain-Elyria, OH
Los Angeles-Long Beach, CA
Lowell, MA-NH
Manchester, NH
Mansfield, OH
Merced, CA
Middletown, CT
Minneapolis-St. Paul, MN-WI
Muskegon, MI
Newark, NJ
New Bedford, MA
New Haven-Meriden, CT
New London-Norwich, CT-RI
Niagara, NY
Norwalk, CT
Oakland, CA
Oklahoma City, OK
Olympia, WA
Omaha, NE-IA
Peoria, IL
Philadelphia, PA-NJ
Phoenix, AZ
Pittsfield, MA
Portland, ME
Portland, OR
Portsmouth-Dover-Rochester, NH-ME
Poughkeepsie, NY
Pueblo, CO
Reading, PA
Redding, CA
Reno, NV
Riverside-San Bernardino, CA
Rochester, NY
Rockford, IL
Saginaw-Bay City-Midland, MI
Salem-Gloucester, MA
Salem, OR
Salinas-Seaside-Monterey, CA
San Francisco, CA
Santa Barbara-Santa Maria-Lompoc, CA
Santa Cruz, CA
Santa Rosa-Petaluma, CA
Scranton, PA
Seattle, WA
Spokane, WA
Springfield, IL
Springfield, MA
State College, PA
Steubenville-Weirton, OH-WV
Stockton, CA
Syracuse, NY
Toledo, OH
Trenton, NJ
Tucson, AZ
Utica-Rome, NY
Vancouver, WA
Vineland-Millville-Bridgeton, NJ
Visalia-Tulare-Porterville, CA
Waterbury, CT
Williamsport, PA
Worcester, MA
Yakima, W A
York, PA
Youngstown-Warren, OH
Yuba City, CA

Appendix Table II: Impact of Segregation on Black Political Efficacy, 1990s, Expanded Specification

	Fraction Black House Candidates	Fraction Black Representatives	Fraction Democratic Representatives	Average Leadership Conference on Civil Rights score	Average Agreement with Congressional Black Caucus
Dissimilarity Index	-0.155 [0.150]	-0.237 [0.127]*	-1.59 [0.851]*	-1.47 [0.633]**	-0.853 [0.380]**
Length of Track	-11.2 [4.17]***	-6.392* [3.42]	-1.604 [34.198]	1.904 [25.408]	.943 [15.213]
Percent Black	.983 [.424]**	1.038** [.403]	1.821 [1.364]	1.738 [1.029]	1.012 [.610]
Percent under 18	-.293 [.287]	.041 [.243]	-3.887 [1.341]**	-4.026 [1.074]***	-2.476 [.691]***
Percent in Poverty	-.65 [.231]	-.179 [.183]	-4.78 [1.8]***	-4.216 [.899]***	-2.348 [.54]***
Percent Employed	-1.71 [.69]**	-.530 [.536]	-11.097 [3.204]***	-7.841 [2.457]***	-4.855 [1.495]
Percent with High School Diploma	.168 [.222]	.091 [.199]	-.542 [.892]	-.547 [.675]	-.239 [.408]

Notes: Robust standard errors in brackets. Sample size=121 except where noted. ***denotes significance at the 1 percent level, ** at the 5 percent level and * at the 10 percent level.

Appendix Table III: Two Stage Least Squares Estimates of the Impact of Segregation on Black Political Efficacy Across Decades, Using only the Herfindahl and the Interaction as Instruments

(Each cell represents the coefficient on the dissimilarity index from a different regression.)

	1970s	1980s	1990s
Panel A			
Fraction Black House candidates	NA[1]	-0.233 [0.120]*	-0.592 [0.304]*
Fraction Black Representatives	0.037 [0.084]	-0.05 [0.064]	-0.429 [0.270]
Fraction Democratic Representatives	-3.58 [1.481]**	-1.889 [0.982]*	-1.124 [1.052]
Average Leadership Conference on Civil Rights Score	-2.346 [0.997]**	-1.842 [0.757]**	-1.586 [0.876]*
Average Agreement with Congressional Black Caucus	-1.148 [0.515]**	-1.105 [0.481]**	-0.867 [0.513]*

Notes: Robust standard errors in brackets. All specifications control for percent Black and length of track. Sample size=121 except where noted. ***denotes significance at the 1 percent level, ** at the 5 percent level and * at the 10 percent level.

1 Fraction Black House candidates not available for the 1970's.

Appendix Table IV: Means for District Characteristics Across decades
(Standard deviations in parentheses.)

	1970s	1980s	1990s
Panel A			
Outcome			
Fraction of districts with percent Black …			
0-10%	.95 (.18)	.95 (.17)	.91 (.20)
N	121	121	121
Panel B			
Outcome			
Standard deviation of percent Black	.03 (.04)	.03 (.04)	.04 (.05)
N	68	80	77

Appendix Table V: First Stage for Political Attitudes

	National Election Studies						National Survey of Black Americans
	Non-Black			Black			
	1970s	1980s	1990s	1970s	1980s	1990s	1979-1980
Railroad Division Index	.271**	.784***	.632***	.140	.504**	.517**	.278
	(.119)	(.145)	(.173)	(.103)	(.228)	(.239)	(.196)
Distance (thousands of miles)	.106	.461***	.184	-.138	.164	.085	-.042
	(.143)	(.135)	(.158)	(.131)	(.220)	(.251)	(.170)
Railroad Division Index*distance	-.145	-.726***	-.351	.349	-.211	-.347	.295
	(.226)	(.194)	(.236)	(.191)	(.291)	(.329)	(.196)
P>F (joint significance of above)	.063	.000	.000	.002	.001	.000	.000
N	3721	3832	3241	248	217	202	379

Notes: Robust standard errors clustered at the congressional district level (or the MSA level for NSBA specifications) in brackets. All specifications control for length of track.

Appendix Table VI: Means for Individual Political Behaviors and Attitudes
(Standard errors in parentheses. Sample size in brackets.)

	National Election Studies						National Survey of Black Americans
	Non-Blacks			Blacks			Blacks
	1970s	1980s	1990s	1970s	1980s	1990s	1979-1980
Focal Independent Variable							
Dissimilarity Index	.75 (.08) [3721]	.646 (.111) [3832]	.592 (.131) [3241]	.813 (.072) [248]	.716 (.097) [217]	.67 (.133) [202]	.802 (.094) [327]
Outcomes							
Voted in most recent election[1]	.701 (.458) [3413]	.651 (.477) [3668]	.732 (.443) [3049]	.641 (.481) [209]	.611 (.489) [203]	.7 (.461) [165]	
Black/White Thermometer (0 to 100)	61.3 (18.2) [2533]	63.6 (20.29) [3499]	63.45 (18.11) [2931]	66.6 (23.3) [155]	66.9 (22.3) [102]	71.7 (19.3) [161]	
Belief that government should aid Blacks (1) through Blacks should help themselves (7)	4.39 (1.78) [3130]	4.4 (1.57) [3429]	4.73 (1.61) [2724]	2.3 (1.74) [197]	3.28 (1.82) [197]	3.79 (1.99) [180]	
Identification as extremely liberal (1) through extremely conservative (7)	4.16 (1.3) [2609]	4.25 (1.31) [2881]	4.28 (1.38) [2391]	3.28 (1.55) [135]	3.78 (1.41) [148]	3.84 (1.5) [138]	
Identification as strong Democrat (1) through strong Republican (7)[2]	3.8 (1.92) [3642]	3.96 (2.06) [3767]	3.86 (2.05) [3209]	2.12 (1.41) [244]	2.28 (1.4) [214]	2.18 (1.35) [200]	.34 (.47) [321]
Voted for the Democrat in most recent congressional election	.526 (.499) [2011]	.554 (.497) [2047]	.511 (.5) [1901]	.952 (.213) [106)	.878 (.329) [98]	.877 (.331) [81]	

1 The National Survey of Black Americans asks whether the respondent voted in the most recent presidential election.
2 The National Survey of Black Americans' outcome is a non-Democrat indicator.