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ABSTRACT

Race v. Suffrage: The Determinants of Development in Mississippi*

We investigate the long term determinants of political and economic outcomes over a new data set composed of Mississippi counties. We analyze the effect of disfranchisement on voting registration at the end of the nineteenth century (1896-9), as well as the impact of voting registration on education outcomes at different points in time, namely in 1917 and in the 1950s. Finally, we turn to the determinants of a broad array of development indicators for the year 1960 and for the 1960-2000 period. Our main conclusion is that race, rather than political institutions and education policies, is the main force driving the above outcomes.

JEL Classification: E25, H52, J15, N31, O11 and P16
Keywords: development, education, inequality, institutions and race

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1. Introduction

Recent advances in comparative development have investigated the long term influence of fundamental growth factors. A crucial distinction has been drawn between de jure and de facto sources of political and economic power (Acemoglu and Robinson, 2008a,b). In the context of the U.S. South, the former have taken the form of suffrage restrictions, while the latter have reflected the inter-racial balance of power between the white elites and the black descendants of slaves. The goal of this paper is to investigate empirically the relative strength of these alternative although interrelated channels.

Between the end of the nineteenth and the beginning of the twenties century Southern U.S. states introduced a series of procedures and laws aimed at disenfranchising a large share of the population. The majority of these laws took the form of poll taxes and literacy tests which prevented poor and illiterates from casting their vote. African Americans and poor whites were the main target of these rules. In fact, by ensuring their support to the Republican and to the Populist parties these groups represented a serious threat to the aspirations of rich white landowners who were mainly represented by the Democratic party. In order to insulate the political system from these challenges to their hegemony, white Democrats introduced barriers to voting high enough to exclude the majority of blacks and poor whites from the Southern electorate.

The effectiveness of these procedures is still largely debated. While some scholars believe in an effective power of the disfranchisement schemes in restricting electorate suffrage (e.g., Kousser, 1974), others do not attribute any effect to the this set of rules (e.g., Bond, 1934, 1939; Key, 1949; Ogden, 1958). In particular Key argues that de jure disfranchisement is the result of a de facto disfranchisement - mainly grounded on race - which restricted the electorate even before these laws were passed. According to Key's fait accompli hypothesis, the white elite was able to push these laws through the assemblies only because political participation had already been suppressed through the use of extralegal forces, violence, intimidation, and a growing hegemony of the white plantation elite represented by Democrats.[1] The feeling that such a state of violence and fraud could not be perpetuated for long and the increasing abuse of power in public office led to the passage in State Constitutions of de jure procedures (Wharton, 1947).

The economic literature has also debated the importance of suffrage restrictions on economic

[1] Acemoglu and Robinson (2008a,b) discuss the de facto disfranchisement imposed by the white elites in the U.S. South through de facto political control even under de jure democratic institutions.

outcomes, such as development, human capital, and factor prices. Acemoglu and Robinson (2008a) argue that in the U.S. South shifts in de jure political power not necessarily reflected changes in the underlying distribution of economic power, in a context where the white landed elites managed to preserve their de facto power for a protracted time period. Baland and Robinson (2008) look at the effect of the introduction of the secret ballot in Chile in 1958 and find that the change in political institutions had implications for voting behavior and land prices. Besley et al. (2010) find a negative association between U.S. growth and the elimination of literacy tests and poll taxes in the 1960s. Acemoglu and Robinson (2000), Ades and Verdier (1996), Bertocchi and Spagat (2001), Bourguignon and Verdier (2000), and Lizzeri and Persico (2004) model the effect of franchise extension. Acemoglu and Robinson (2008c) and Llavador and Oxoby (2005) also propose theoretical models that motivate the landowners' opposition to democracy. From the empirical point of view, Kousser (1974, 1980) uses ecological regressions to analyse the effect of suffrage restrictions on vote shares by party and education expenditure, while Naidu (2010) uses a county-pair identification strategy to estimate the effect of poll taxes and literacy tests on electoral turnout, Democratic vote share, public goods provision, and land value. Margo (1982, 1990), Pritchett (1989), Welch (1973), and Smith (1984, 1989) also look at the effect of voting restrictions on education outcomes.

This paper contributes to the above literature by providing evidence on the importance of de facto vs. de jure institutions - i.e., of race vs. suffrage - in the U.S. South and on its consequences on economic development. Contrary to most of the existing literature we focus on a single state, the state of Mississippi. This eliminates the correlation between cross state structural, social, and institutional differences and the error term. Focusing on cross county variations within a single state also permits to overcome cross state differences in de jure disfranchisement.[2] For example, Mississippi had a cumulative poll tax which, according to Kousser (1974), was more binding than non-cumulative poll taxes introduced by other states.[3]

Mississippi represents an ideal setting for an investigation of the links between disfranchisement and subsequent development. In the past, it had one the highest proportion of slaves (0.52 in 1860, third after South Carolina and Louisiana) and it was among the first states to enact de jure disfranchisement provisions in 1890. Economically, it has always been one of the most backward states of the U.S. In 2000, it still had the lowest income per capita ($15,853) and the highest

[2] Naidu (2010) captures cross state differences with dummy variables simply denoting the presence of a poll tax and literacy tests.
[3] See Ogden (1958) for a detailed comparison of poll tax provisions across states.

proportion of blacks (0.37 if we exclude the District of Columbia with 0.60).

In order to conduct our analysis we use a previously unexploited source of official statistics for the state of Mississippi we collected from the United States v. Mississippi Interrogatory Answers. *"The Interrogatory Answers collection is the result of a 1962 action brought by the "USA government against the State of Mississippi (…), alleging that the defendants had violated the voting rights of African American citizens. The U.S. District Court for the Southern District of Mississippi dismissed the complaint, but the Supreme Court reversed the suit on appeal in March 1965. However, Congress passed the Voting Rights Act of 1965 before the District Court reconsidered the case (…). The information outlined in the interrogatory answers provide detailed data and sources that illuminate the difficulties African Americans faced in Mississippi when they attempted to exercise their right to vote between 1890 and 1963." (*University of Mississippi Libraries, Digital Collections*)*. Since the subject of African American literacy was relevant to voting registration, information on the segregated school system of the state is also provided, so that we can also collect data on education outcomes per race. In order to investigate how political institutions influence long run development, we then merge the data collected from the Interrogatory Answers with Census data at the county level.

Using Mississippi as a case study, we reach the following conclusions. First, we show that the cross county variation in black voting registration at the end of the nineteenth is mainly explained by race, while de jure restrictions are hardly significant. Second, we document a significant effect of disfranchisement on subsequent black education outcomes. Third, we find that race, rather than suffrage, is the variable which is most responsible for the cross county variation in long term development, since political institutions only exert a marginal impact, mainly through the education policy they shaped.

The rest of the paper is organized as follows. In Section 2 we analyze the effect of disfranchisement on voting registration at the end of the nineteenth century (1896-9). In Section 3 we examine the effect of voting registration on education outcomes in the short and medium term, namely in 1917 and in the 1950s. In Section 4 we turn to the medium and long run determinants of a broad array of development indicators, with a focus both on 1960 levels and on the dynamics over the 1960-2000 period. Section 5 concludes.

2. The Effect of Disfranchisement on Voting Registration

The purpose of this section is to investigate the determinants of voting registration across the counties of Mississippi at the end of the nineteenth century, and in particular to understand the relative role of de jure and de facto constraints on voters' behavior.

In November 1890 a new constitution replaced the Mississippi Constitution of 1869. New qualifications for voters required that *"each elector (1) Be a male citizen; (2) Be twenty-one years of age or over; (3) Be a resident of the State two years and of the election district or municipality one year; (4) Be registered to vote; (5) Be not disqualified by reason of insanity, idiocy, or conviction of certain crimes; (6) Be able to read any section of the State Constitution, or be able to understand it when read to him, or to a give reasonable interpretation of it; (7) Have paid all taxes by February of the year in which he desires to vote and produce evidence of payment. This includes payment of an annual poll tax of two dollars."*

In addition to longer residence requirements, the novelties introduced by the new constitution were a literacy test and a poll tax,[4] both as prerequisites for registration. A complete re-registration was required before the first election following the 1st of January 1892. After the adoption of the new constitution, black political participation decreased sharply. Kousser (1974) estimates that almost 30 percent of blacks registered in 1888. This share dropped to 8.2 percent in 1896,[5] against 70 percent for whites. Similarly, as reported by the U.S. Commission on Civil Rights (1965), in 1867 almost 70 percent of the black voting age population was registered, a figure that dropped to less than 6 percent in 1892. Is this decline in political participation explained by the new requirements introduced by the new constitution? We cannot compare voting registration before and after the introduction of the new constitution because of lack of data for the former period. However, we can use the cross county variation in the number of registered votes in 1896 to test whether registration varies with proxies for the level of literacy and wealth of blacks, which should capture the effectiveness of the literacy test and the poll tax. If the de jure innovations introduced by the 1890 Constitution were such to influence electoral outcomes, we should expect the difference in black registration to depend strongly on the cross county variation in these variables. At the same time, we

[4] In Mississippi the tax was cumulative, with a maximum total charge of four dollars, while for the bottom three quarters of the Southern population per capita annual income (including non-cash components) were estimated by Kousser (1974) at about 55 and 64 dollars in 1880 and 1890, respectively.

[5] This percentage is obtained by dividing total registered voters by the state's male population of age 21 and above (population data refer to 1900, the closest available year). However, data on registered voters in 1896 are available for 75 counties only and for this reason the percentage in Kousser (1974) underestimates true registration which is equal to 14 percent once we divide the number of registered voters by the male population in these 75 counties only.

can gauge how registration responds to de facto elements, as captured by the share of blacks and measures of the power of the landed elites. If the variation in black registration is determined by de jure constraints, once we control for them de facto elements should not display any explanatory power.

Our empirical strategy can be described in more detail as follows. Our dependent variable is voting registration for the 1896 presidential elections, both for blacks and whites, as measured by the share of registered voters on population by race. Our regressors include de jure constraints which reflect the two innovations introduced by the 1890 constitution, i.e., the literacy test and the poll tax. Of course, these requirements were imposed on all residents of the state of Mississippi. However, their practical relevance should vary with illiteracy and with the ability to pay, which in turn differ between races and across counties. Thus, we employ the illiteracy rate, per race, as an indicator of the impact of the literacy test. In particular, counties associated with higher shares of blacks' illiterate should exhibit lower registration. To proxy for blacks' wealth, and therefore for the impact of the poll tax, we use three variables: emigration, black infant mortality, and sharecropping intensity. Consistently with migration theory,[6] we expect blacks to leave those counties where their wage is lower.[7] Thus, we should observe a negative correlation between emigration and registration. Infant mortality is in turn influenced by diseases and malnutrition and is therefore closely associated with low income levels,[8] so that we should expect a negative correlation with registration. Sharecropping intensity should reflect cash flow availability. Consequently, the poll tax should be more effective in counties where the population has a tighter cash flow (see Kousser, 1974), so that we should expect a negative association between sharecropper intensity and registration. To sum up, we interpret illiteracy, migration, infant mortality, and sharecropping intensity as variables capturing the effectiveness of the de jure determinants of voting registration.

Our main de facto determinant of voting registration is race, as measured by the share of blacks over population. The use of the black share as a proxy for de facto disfranchisement is consistent with the literature in the field (Kousser, 1974; Key, 1949; and Ogden, 1958) which suggests that blacks were already disfranchised before the introduction of the new constitution, because they were de facto already unable to register. The opposition to blacks' registration was tougher in counties where blacks represented the majority. Wharton (1947) reports that, except in the counties where the Democrats had a safe majority, blacks were strenuously pressured to refrain from voting,

[6] See Harris and Todaro (1970).
[7] See Irwin and O'Brien (2001) for migration patterns in the Mississippi-Yazoo Delta in 1880-1910.
[8] See the Report on Vital Statistics in 1880 and 1890 Census.

or even to vote the Democratic ticket, both through economic means (such as threats of unemployment) and other cooptative or intimidative practices. We also control for land inequality and for the share of urban population. Both controls should capture the relative influence of the land-owning white elite, whose presence may represent another de facto impediment to blacks' political participation (as suggested by Acemoglu and Robinson, 2008a).

In Table 1 we report descriptive statistics for white and black registration and for our controls. In 1896 black registration[9] is less than one fifth of white registration.[10] The cross county average share of black male population of age 21 and above who registered in 1896 is about 14 percent against a 72 percent for whites. In socio-economic terms, Mississippi is a striking image of the South in this time period. With a 51.8 percent of blacks over total population in 1890, it ranks third after South Carolina and Louisiana. The black share actually increases slightly in the 1860-1890 period, since the slave share in 1860 is equal to 51.6 percent.[11] However, if we take the difference between the share of blacks (including slaves and free coloured) in 1860 and the share of blacks in 1890 we find an even larger increase in the share of blacks: 0.7 percent, with a maximum of 12 percent and a minimum of -15 percent. This difference is the result of the creation of several new counties which were formed from lands of pre-existing counties in the 1860s and the 1870s and because of that counties in 1860 are not comparable with counties in 1890. In order to have a measure of migration which is not affected by these events we calculate a revised rate of black emigration as the difference between black population in 1890 and black population in 1880, the latter augmented by the difference between birth and death rates in 1880 and 1890. From Census data[12] we know that the annual rate of birth among blacks is 3.1 percent and the annual rate of death is 1.5 percent.[13] Using this measure we estimate a revised average emigration rate in 1880-90 of 1.1 percent, with a peak of 44 percent in Quitman.

Table 1 also reports statistics for the other controls we use to capture the variation in the registration rate. For example, the infant mortality rate for blacks in 1890, measured as the rate of death in black population under one year of age, is on average 8.4 percent, with a maximum at 21.2 percent in

[9] Black registration is equal to the ratio of the number of registered blacks in 1896 to black male population of age 21 and above in 1900 (the closest available year as in Kousser). We proceed in a similar fashion for white registration. See also footnote 5.
[10] The total number of registered blacks and whites is 16,234 and 108,998 respectively. These figures are consistent with totals provided by the Biennial Report of Secretary of State to Legislature of Mississippi for 1896-1897.
[11] In 1860, there were fewer than 1,000 free people of colour.
[12] The birth and death rates for 1880-90 are provided by the Report on Vital Statistics of the 1890 Census.
[13] The number of blacks in Mississippi in the 1890 Census is 742,559. However, if we augment the 1880 number of blacks by taking into account birth and death rates, we obtain an estimated number of blacks in 1890 of 747,835. We impute this difference to migration outside the state.

Clay and a minimum at 1.97 percent in Jasper. Black illiteracy, i.e., the share of illiterate male blacks of age 21 and above, is much larger than that for whites (52 percent against 8 percent).[14] Land inequality[15] and the share of urban population (both as of 1890) also vary significantly. Finally the index of sharecropping intensity[16] is on average almost 30 percent of total farm population, with the highest share in Issaquena (over 80 percent).

Table 1: Descriptive Statistics, Selected Variables, 1860-1900

Variable	Obs	Mean	Std. Dev.	Min	Max
White Registration 1896	75	0.725	0.148	0.344	0.993
Black Registration 1896	75	0.143	0.126	0.007	0.538
Black Share 1890	76	0.518	0.227	0.084	0.940
Slave Share 1860	60	0.516	0.209	0.122	0.925
Black Share 1890 – Black Share 1860	60	0.007	0.064	-0.151	0.122
Black Emigration 1880-90	75	0.011	0.123	-0.262	0.442
Black Infant Mortality 1890	75	0.084	0.331	0.019	0.212
Black Illiteracy 1900	75	0.523	0.071	0.208	0.660
White Illiteracy 1900	75	0.077	0.0419	0.0082	0.201
Land Inequality 1890	76	1.328	0.572	0.611	4.737
Urban Population (log) 1890	76	1.491	3.324	0	11.155
Sharecropping Intensity 1890	76	0.291	0.153	0.014	0.812

The descriptive statistics in Table 1 provide some preliminary evidence about the importance of race as a disfranchisement factor. If we compare the maximal and minimal registration for blacks across counties, we find that registration is highest in Smith (53.8 percent of black males of age 21 and above), where the share of black population is only 16 percent, and therefore not large enough to represent a credible threat to white Democrats. At the other extreme we find Noxubee where black registration is equal to 0.7 percent against a share of blacks equal to 82.7 percent. The fact that blacks in this county represented a large majority suggests that tougher opposition was necessary in order to keep a white hegemony, as explained by Wharton (1947). At the same time, the difference in registration between these two counties is hardly explained in terms of literacy tests and poll taxes, since large variations in illiteracy and wealth are absent (black illiteracy in Smith is 54 percent and in Noxubee 66 percent, i.e., both above the mean).

The hypothesis that de facto disfranchisement was already in place before the enactment of the 1890 voting restrictions, consistently with Key (1949), is also supported by additional evidence.

[14] We use data on the share of illiterates in 1900 because figures for the population of age 21 and above are available only for this year.
[15] To compute land inequality we use the Generalized Entropy Index (a=-1).
[16] The index of sharecropping intensity is calculated as the ratio of farm population under a sharecropping scheme to total farm population. The index is equal to one if all farm population is under a sharecropping scheme.

According to Kousser (1974), since 1874 the state of Mississippi has had a long tradition of racial violence and a weaker political structure than any other state in the U.S. South. The use of violence and fraud had already cut the black electorate by 1880.[17] Concerns about the increasing number of blacks in public offices following the 1873 elections, together with the financial crisis and the discovery of scandals in the Federal Government, turned whites' anger against blacks and Republicans. Thus, in the subsequent 1876 election, most white voters turned their back to Republican candidates, whose share of votes dropped significantly. In Table 2 we report data for the 1873 and 1876 elections in six black counties (Wharton, 1947). On average over these six counties, the Republican vote in 1876 is less than 3.6 percent than that of 1873, which suggests that the electoral supremacy of the Democratic party indeed predated the changes introduced by the 1890 Constitution.

Table 2: Republican Vote in Six Black Counties, 1873-1876

County	Votes in 1873	Votes in 1876	1876/1873 Votes
Amite	1093	73	6.68
Lowdnes	2723	13	0.47
Madison	2323	13	0.56
Tallahatchie	840	1	0.11
Warren	4709	623	13.22
Yazoo	2433	2	0.08

To perform a more formal test of our hypothesis, in Table 3 we regress variables for white and black registration on our controls for race, literacy, measures of blacks' wealth (including sharecropping, infant mortality and emigration), land inequality, and the urban share. To control for omitted variables bias, we also include a set of geographical variables (see Table A2 for summary statistics).[18] Namely, we include a dummy for Jackson, the state capital, because in this county Republicans had a strong organization. We also use a dummy for counties on the Mississippi River Delta because of its particular characteristics (agricultural plains with the largest black shares and land inequality).[19] Finally, we control for distance from Jackson (both in latitude and longitude).

In Model 1 we start with a basic model of black registration in which we include controls for black

[17] Judge Chrisman, a member of the 1890 Mississippi Convention, declared: "*Sir, it is not a secret that there has not be a full vote and a fair election count since 1875, that we have been preserving the ascendency of the white people by revolutionary methods. In other words, we have been stuffing ballot boxes, committing perjury, and here and there in the state carrying the elections by fraud and violence..... No men can be in favour of perpetuating the elections methods which have prevailed in Mississippi since 1875 who is not a moral idiot.*" (Wharton, 1947, p. 206).

[18] Table A2 reports summary statistics for all the variables employed, including those already presented in the text.

[19] Irwin and O'Brien (2001) analyze the evolution of the agricultural system in the Mississippi-Yazoo Delta in 1880-1910.

illiteracy, land inequality, the urban share, sharecropping intensity, black infant mortality, black emigration, as well as the Jackson and the Delta dummies. The proxies for illiteracy and sharecropping intensity are both significant, though the former is only significant at a 10 percent level. Land inequality also reduces black registration by 0.07 per a standard deviation. Controls for urban population and location in the Delta are also significant and negative.

In Model 2 we enter the black share in 1890 to gauge the impact of race on registration and the variable turns to be significant at a 1 percent level, with a decrease in registration of 0.39 per a one percent increase in the black share. At the same time, the variables which were previously significant, with the exception of land inequality, are no longer so. Analogous results (which we do not report for brevity) would be obtained by replacing the black share in 1890 with the slave share in 1860. The correlation between the two variables is 0.96, but using the latter would reduce the sample to only 60 observations.[20] In Model 3 we remove black infant mortality and black migration (which are always insignificant) and we add the two dummies capturing the distance from Jackson. While one of them is significant, it does not alter the results from Model 2.

Overall, the R-squareds (at 0.51 and 0.54 in the two models including the black share) imply that these models can explain a large portion of the variation in black registration, consistently with the idea that blacks were more severely deprived of political power in counties where the share of blacks in 1890 was larger. On the other hand the effect of factors proxying for the poll tax and the literacy test add no significant explanatory power to our models when race is accounted for. In other words, de facto disfranchisement as captured by race prevails over de jure disfranchisement as an explanation of black registration. The effect of land inequality is also significant and negative, which suggests that the opposition to blacks' enfranchisement was tougher in counties in which whites represented a strong elite.[21]

Finally, in Model 4 we replace black registration with white registration as the dependent variable and we find that land inequality exerts a significant negative effect (significant at a 10 percent level) on white registration. A standard deviation in land inequality decreases white registration by almost 0.07 percent, suggesting that poor whites may also have been affected by the presence of white

[20] The difference between the slave share and the black share is related to migration. In Table A3 in the Appendix (Models 1 and 2) we investigate the determinants of the black share in 1890 and of black migration in 1880-90, respectively. We show that the former is largely explained by the slave share, with and R-squared at 0.94 and a positive effect also of the presence of irregular plains and open hills. On the other hand, blacks in this time period tend to leave counties with a larger slave share and to migrate toward flat plains and the Mississippi River Delta, where labor demand is larger.

[21] Alternative GE indices with a different coefficient (a=0, a=1, and a=2, where a lower a puts more weights on the lower tail of the distribution) and a Gini Index are not significant.

elites. The Jackson dummy is the only other significant variable and its positive coefficient possibly reflects the relative wealth of whites in the capital. This lack of significance is likely to be explained by the large registration among whites which on average is above 72 percent and therefore in line with the turnout in a full democracy. It is plausible therefore that restrictions introduced with the 1890 Constitutions had no effect on the white electorate, as confirmed by the insignificance of the coefficient of white illiteracy.

Table 3: Determinants of Voting Registration per Race in 1896

	Dependent Variable: Registration per Race 1896			
	Model 1	Model 2	Model 3	Model 4
Estimation Method: OLS	Blk Registr.	Blk Registr.	Blk Registr.	Wht Registr.
Black Illiteracy 1900	-0.324*	0.0552	-0.00295	
	(-1.97)	(0.37)	(-0.02)	
Black Share 1890		-0.393***	-0.438***	0.0888
		(-5.53)	(-5.67)	(0.62)
Land Inequality 1890	-0.0660***	-0.0495***	-0.0585**	-0.0680*
	(-3.43)	(-2.71)	(-2.40)	(-1.88)
Jackson Dummy	0.0198	0.0298	0.0621	0.201**
	(0.57)	(1.02)	(1.37)	(2.42)
Urban Share (log) 1890	-0.00653**	-0.00275	-0.00201	-0.00991
	(-2.32)	(-1.30)	(-0.81)	(-1.66)
Mississippi River Delta Dummy	-0.0971***	-0.0177	-0.0280	-0.0841
	(-3.91)	(-0.73)	(-1.14)	(-1.06)
Sharecropping Intensity 1890	-0.223**	0.0319	-0.0766	0.145
	(-2.23)	(0.45)	(-0.94)	(0.65)
Black Infant Mortality 1890	-0.0243	0.000074		
	(-0.71)	(0.04)		
Black Emigration 1880-90	-0.0208	0.0965		
	(-0.23)	(1.39)		
Distance in Latitude from Jackson			-0.243	-0.340
			(-0.48)	(-0.35)
Distance in Longitude from Jackson			-4.299**	0.723
			(-2.46)	(0.21)
White Illiteracy 1900				-0.332
				(-0.47)
Constant	0.514***	0.379***	4.955**	0.382
	(4.31)	(3.71)	(2.45)	(0.09)
Observations	74	74	75	75
R-Squared	0.32	0.51	0.54	0.18

Robust t statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Since voting and registration may follow spatial patterns (Darmofal, 2006), in Table 4 we repeat the same exercise of Table 3 controlling for spatial correlation across counties, to obtain very similar results. Black illiteracy is now significant at 1 percent in Model 1, but consistently with simple OLS its estimates are always insignificant in the following two models. On the other hand, the proxy for

sharecropping intensity retains its significance in Model 3. Land inequality confirms its negative and significant coefficient and the effect of the other controls is similar to what emerged from Table 3.

Table 4: Determinants of Voting Registration per Race in 1896 (Spatial OLS)

	Dependent Variable: Registration per Race 1896			
	Model 1	Model 2	Model 3	Model 4
Estimation Method: Spatial OLS	Blk Registr.	Blk Registr.	Blk Registr.	Wht Registr.
Black Illiteracy 1900	-0.379***	0.0857	0.0187	
	(-2.60)	(0.62)	(0.13)	
Black Share 1890		-0.370***	-0.432***	0.103
		(-5.47)	(-7.87)	(0.78)
Land Inequality 1890	-0.0753***	-0.0491***	-0.0726***	-0.0881*
	(-3.66)	(-3.08)	(-3.32)	(-1.89)
Jackson Dummy	0.00849	0.0243	0.0432	0.184**
	(0.23)	(0.84)	(1.07)	(2.49)
Urban Share (log) 1890	-0.00768**	-0.00302	-0.00213	-0.0110*
	(-2.56)	(-1.52)	(-0.86)	(-1.69)
Mississippi River Delta Dummy	-0.108***	-0.0183	-0.0131	-0.104
	(-4.35)	(-0.81)	(-0.59)	(-1.38)
Sharecropping Intensity 1890	-0.211***	0.0164	-0.170**	0.0604
	(-2.88)	(0.25)	(-2.01)	(0.22)
Black Infant Mortality 1890	-0.000443	-0.000118		
	(-0.97)	(-0.41)		
Black Emigration 1880-90	-0.0311	0.103		
	(-0.36)	(1.59)		
Distance in Latitude from Jackson			-0.265	-0.301
			(-0.75)	(-0.41)
Distance in Longitude from Jackson			-4.479***	0.138
			(-3.31)	(0.05)
White Illiteracy 1900				-0.660
				(-0.63)
Constant	0.574***	0.367***	5.182***	1.001
	(4.69)	(4.20)	(3.26)	(0.29)
Observations	74	74	75	75
Spatial Correlation=0	-1.837	-1.155	-3.681**	-1.309
	(-1.02)	(-0.78)	(-2.30)	(-0.51)
Variance Ratio	0.33	0.53	0.58	0.23

Robust z statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

To assure that our results are not spurious and that they are robust to different elections, in Table A4 in the Appendix we use data on registered voters per race in 1899.[22] The total number of registered

[22] Voting registration in 1899 refers to primary elections for Governors and Senators. The rules for primaries were partly different. For instance, the poll tax for primaries was imposed only in 1934. Blacks were barred from participation in Democratic primaries beginning in 1907 (Parker et al., 1994).

voters in the Interrogatory Answers marginally differs from the total number provided in the Biannual Report of Secretary of State for the years 1898-99.[23] Since we do not know to what to impute this measurement error, we only use this dependent variable to check the robustness of the results in Table 3. Even in the presence of such a potential bias, the correlation between black registration in 1896 and 1899 is 0.93, denoting strong persistence in black voters' behaviour. In general, regression results are largely unchanged for 1899. Controls for de jure disfranchisement are again not significant once we control for race, while land inequality is. Only the urban share is significant for white registration.

To sum up, our results imply that the formal legal institutions introduced with the 'Restoration' did not alter the balance of political power and rather formalized a status quo produced by other factors reflecting the de facto power of the white elite. Their introduction can be justified as an effort to substitute legal for extorted political control and to ensure the maintenance of white supremacy even in the face of economic and social transformation that may alter de facto power in the future. Although Wharton (1947) concludes his work on the conditions of blacks in Mississippi in the 1865-1890 period by asserting that by 1890 a transition from slavery to a caste system had been completed, and despite the fact that Mississippi did represent an extreme situation of extraordinary violence and discrimination, still even in this state the white elites had some reason to worry about the future. Indeed in 1888 the Republicans had almost managed to pass through Congress the Lodge Election Bill, which would have extended federal supervision of registration and voting and made fraud and intimidation more difficult even in Mississippi. Moreover, there was also evidence of progressive erosion of local Democratic power (see Kousser, 1974).

3. The Effect of Disfranchisement on Black Education

In this section we turn to the determinants of blacks' education outcomes. Section 207 of the 1915 Constitution of Mississippi cites: "*Separate schools should be maintained for children of the white and colored races.*" The importance of the discriminatory provision of schooling between races in the South and its consequences in terms of education and employment has been exhaustively documented by Margo (1990), complementing a large literature that has studied school segregation (Welch, 1973, Orazem, 1987, Card and Krueger, 1992, and Fishback and Baskin, 1991). In this section we add to this literature by investigating whether de jure and de facto disfranchisement may have contributed to the unequal provision of public education in the state of Mississippi.

[23] The total number of registered voters in the Biennial Report of Secretary of State to the Legislature of Mississippi is 18,170 for blacks and 122,742 for whites, while our totals are 17,979 and 124,780.

While cross county data on education outcomes are available for the years 1917 and 1954-7, data on voting registration are only available for 1896 (as well as 1899, even though as previously explained the 1896 data are preferable). However, by assuming sufficient persistence in the de facto institutions (see Acemoglu and Robinson., 2008a[24]) which are responsible for the electoral outcome, we can use 1896 registration as a proxy of black disfranchisement throughout the period. Table 5 reports data that illustrate the time evolution of a number of education variables, at the state level, in selected years between 1890 and 1962. Data are provided by the Interrogatory Answers (Section 8). Since 1890 black children of school age in Mississippi have always been much more numerous than white children. On the other hand, the number of teachers per pupil and the salaries of black teachers have always been smaller than those of whites, while education expenditure per black pupil has always been less than expenditure per white pupil. These trends appear to be persistent. Thus, we can expect a similar correlation between 1896 registration and the dependent variables over the short and the long run (even though the magnitude of the effect may of course vary).

Table 5: Descriptive Statistics, Education Indicators, 1890-1962

Children od School Age		
Year	White	Black
1890	207,652	292,581
1910	301,548	410.089
1929	379,678	493,967
1949	393,804	492,349
1960	329,215	337,871
Teacher per Child in Attendance		
Year	White	Black
1931-32	23 – 1	34 – 1
1939-40	25.5 – 1	35.1 – 1
1951-52	26 – 1	34 – 1
1961-62	23 – 1	28.5 – 1
Yearly Teacher Salaries		
Year	White	Black
1941 – 42	$ 735.38	$ 232.93
1949 – 50	$ 1,805.69	$ 710.56
1953 – 54	$ 2,175.55	$ 1,244.68
1961 – 62	$ 3,742.39	$ 3,236.75
Education Expenditure per Pupil		
Year	White	Black
1900 – 01	$ 8.20	$ 2.67
1929 – 30	$ 40.42	$ 7.45
1939 – 40	$ 31.23	$ 6.09
1949 – 50	$ 75.70	$ 23.83
1956 – 57	$ 128.50	$ 78.70
1960 – 61	$ 173.42	$ 117.10

[24] Acemoglu and Robinson (2008a) provide a detailed analysis of the persistence of de facto institutions related to slavery in the U.S. South and in Latin America.

Using spatial OLS, in Table 6 we test the effect of disfranchisement on black teachers per black pupil and white teachers per white pupil in 1917,[25] using voting registration in 1896 as a proxy of disfranchisement. Similarly, we enter the historical values of the additional controls. Data on black and white teachers are collected from the State Superintendent Report (Bond, 1918) while data on black and white children of school age (6-14) are provided by the Historical Census (Haines et al., 2004). Summary statistics are collected in Table A2. On average in 1917 there are 50.2 black teachers for 5,929.25 black children of school age, while the number of white teachers is 86.5 for 4,325.5 white children. In order to understand whether this difference is the effect of de jure disfranchisement, or else of race, in Model 1 we regress black teachers per black pupil on the black share in 1890 and black registration in 1896. We also enter controls for the historical values of black illiteracy, land inequality, and the urban share, plus the geographical dummies. The number of black teachers per black pupil significantly increases with black registration and decreases with black illiteracy,[26] while the black share and land inequality are not significant. In Model 2 we replace land inequality in 1890 with the same index for 1910, since in this time period land distribution changed quite significantly (0.43 correlation) as a result of the empowerment of the white elite.[27] The updated measure has a significantly negative effect. In Model 3 we also enter a proxy for black emigration over the 1890-1910 period, measured here as the share of blacks in 1890 over the share of blacks in 1910,[28] which is not significant. Finally in Model 4 we replace the dependent variable with the number of white teachers per white pupil, which significantly depends on the black share (positively) and on the urban share and land inequality (negatively). The pattern emerging from Table 6 suggests that black registration exerts a robust impact on black education outcomes, while race does not. On the other hand, race affects white education outcomes.

[25] For the U.S. South over 1870-1920 Naidu (2010) finds a marginal negative effect of poll taxes and literacy tests on the ratio of black teachers to black pupils.

[26] The negative effect of black illiteracy captures a sort of supply effect. Teachers were likely to be fewer in counties with higher illiteracy among blacks.

[27] In Table A3 in the Appendix (Model 3) we show that land inequality in 1910 decreases with white registration in 1896 and increases with initial land inequality in 1860 (significant at a 10 percent level). See Kousser (1974) and Ogden (1958) for the effect of white disfranchisement on the fall of the Populist Party and its link with the agrarian reform.

[28] Of course, using the ratio of the share of blacks in 1890 to the share in 1910 is not a perfect measure of migration. This measure is based on the assumption that if the black and the non-black populations grow at the same rate then in the absence of migration the share of blacks in 1910 should be exactly the same as the one in 1890. Therefore the ratio should be equal to one if there is no migration, above one if there is an outflow, and below one if there is an inflow. Data on birth and death rates that would allow to compute population growth by race are not available over this time period.

Table 6: Determinants of Black and White Teachers per Black and White Pupil in 1917

	Model 1	Model 2	Model 3	Model 4
Estimation Method: Spatial OLS	Blk Tch/Blk Pup	Blk Tch/Blk Pup	Blk Tch/Blk Pup	Wht Tch/Wht Pup
Black Share 1890	-0.00134	-0.00370	-0.00451	0.0342***
	(-0.25)	(-0.68)	(-0.57)	(3.60)
Black Registration 1896	0.0176**	0.0174**	0.0150*	
	(2.14)	(2.35)	(1.70)	
Black Illiteracy 1900	-0.0160**	-0.0192***	-0.0213***	
	(-2.01)	(-2.87)	(-3.14)	
Land Inequality 1890	-0.000603			
	(-0.46)			
Jackson Dummy	-0.0123***	0.00335	0.00598	0.0283*
	(-5.35)	(0.73)	(1.04)	(1.76)
Urban Share (log) 1890	-0.000160	-0.000100	-0.000194	-0.00134**
	(-1.12)	(-0.74)	(-1.53)	(-2.42)
Mississippi River Delta Dummy	-0.000238	-0.00115	-0.000305	0.000703
	(-0.21)	(-1.10)	(-0.26)	(0.12)
Distance in Latitude from Jackson	0.0260*	0.0410***	0.0559***	0.0495
	(1.86)	(2.90)	(3.79)	(1.14)
Distance in Longitude from Jackson	0.221***	0.208***	0.208**	0.120
	(4.32)	(4.27)	(2.05)	(0.78)
Land Inequality 1910		-0.00292***	-0.00323***	-0.00519*
		(-2.66)	(-2.83)	(-1.76)
Black Emigration 1890-1910			0.0123	-0.00614
			(1.11)	(-0.48)
White Registration 1896				-0.0161*
				(-1.78)
White Illiteracy 1900				0.0326
				(0.55)
Constant	-0.215***	-0.211***	-0.235**	-0.115
	(-3.61)	(-3.74)	(-2.35)	(-0.64)
Observations	73	73	73	73
Spatial Correlation = 0	-4.250***	-4.335***	-2.398	-2.538
	(-2.60)	(-2.73)	(-0.65)	(-1.16)
Variance Ratio	0.44	0.47	0.50	0.33

*** p<0.01, ** p<0.05, * p<0.1
Robust z statistics in parentheses

We then turn to property taxes and education expenditure. Table 7 reports summary statistics for per capita property tax revenues, which in 1954 represents one of the main local sources of education funding. Data are collected from the County Data Book (Haines at al., 2004). Summary statistics are also reported for education expenditure, per pupil and also per white and black pupil, in 1954, as provided by the Interrogatory Answers (Section 8). Education expenditure per white pupil is almost twice the expenditure for black pupil. This difference in education expenditure was achieved mainly through a diversion of state funds from blacks to whites. For example in 1939-40 Sunflower county received for education from the state of Mississippi a total of $73,626, computed on a per child

basis. Since 79 percent of the children of school age were black, the amount the county received for black pupils was $58.165. However, only $35.564 was spent for black pupils. The remaining $22.601 was presumably spent on additional schooling for the whites. Thus, the presence of blacks was a source of funding for white education and the amount spent per white pupil was much larger in counties with a higher share of blacks.

Table 7: Descriptive Statistics, Property Taxes (1954) and Education Expenditure (1954)

Variable	Obs	Mean	Std. Dev.	Min	Max
Educ. Exp. per Black 1954	81	173.8519	43.7933	109	396
Educ. Exp. per Pupil 1954	81	91.51852	18.5399	51	153
Educ. Exp. per White 1954	80	265.0625	43.57544	186	493
Property Tax p.c. 1957	83	24.01212	9.546124	9.532891	59.88423

Table 8 shows spatial OLS estimates for the four dependent variables listed in Table 7. White registration is significant at 1 percent and negative in the model for the per capita property tax (Model 1). Taxation increases with urbanization and in the Delta. In Model 2 we enter education expenditure per pupil as the dependent variable and find that it depends positively on the share of blacks in 1890 and negatively on our proxy for black emigration in the 1890-1950 period, suggesting that education expenditure is lower in the presence of outflows. In the next two columns we split total expenditure into its two racial components. In Model 3 education expenditure per black pupil is significantly and positively affected by black registration, in line with the existing empirical evidence (e.g., Margo, 1982). On average a standard deviation in black registration increases education expenditure per black pupil by 0.55. The effect of a larger black share in 1890 is now negative and significant at 10 percent, and so is land inequality. Finally in Model 4 we find that expenditure per white pupil depends positively on the black share and negatively on black emigration. As expected, since a large share of state funding for black education was diverted toward white education, the presence of blacks is a crucial determinant of white expenditure and, through this channel, of overall expenditure.

To sum up, our results from Tables 6 and 8 indicate that black registration at the end of the nineteenth century exerts a persistent and significant effect on several dimensions of black education in the subsequent decades, at least up to the 1950s, and that this effect runs through several channels, including the number of black teachers per black pupil and education expenditure for blacks.

Table 8: Determinants of Property Taxes (1957) and Education Expenditure per Race (1954)

	Model 1	Model 2	Model 3	Model 4
Estimation Method: Spatial OLS	Prop. Tax	Educ. Exp.	Blk Educ. Exp.	Wht Educ. Exp.
Black Share 1890	0.234	0.365***	-0.308*	0.723***
	(0.88)	(3.57)	(-1.85)	(6.40)
Black Emigration 1890-1950	-0.0751	-0.162***	0.0349	-0.201***
	(-0.53)	(-3.52)	(0.39)	(-4.08)
Black Registration 1896	-0.137	0.107	0.553**	-0.198
	(-0.36)	(0.77)	(2.45)	(-1.24)
White Registration 1896	-0.657***	-0.0653	-0.0621	-0.0650
	(-3.12)	(-0.80)	(-0.48)	(-0.71)
Land Inequality 1910	-0.0533	-0.00127	-0.0968*	0.0654*
	(-0.61)	(-0.04)	(-1.83)	(1.96)
Jackson Dummy	0.549	0.151	0.818***	-0.264
	(1.06)	(0.78)	(2.75)	(-1.21)
Urban Share (log) 1890	0.0290***	0.00154	0.00764	-0.00531
	(2.60)	(0.34)	(1.14)	(-1.08)
Mississippi River Delta Dummy	0.315**	0.00932	0.0444	-0.0142
	(2.38)	(0.27)	(0.65)	(-0.39)
Distance in Latitude from Jackson	-0.937	-3.170**	-2.650	-4.615***
	(-0.20)	(-2.37)	(-0.72)	(-3.36)
Distance in Longitude from Jackson	1.723	0.666*	1.325	0.0409
	(1.61)	(1.79)	(1.34)	(0.11)
Constant	2.904	8.128***	6.061	9.551***
	(0.55)	(5.21)	(1.47)	(5.95)
Observations	75	73	74	73
Spatial Correlation = 0	-1.640	-3.093**	0.468	-3.902***
	(-0.96)	(-2.34)	(0.93)	(-2.85)
Variance Ratio	0.48	0.55	0.31	0.74

*** p<0.01, ** p<0.05, * p<0.1
Robust z statistics in parentheses

4. Disfranchisement and Development

Mississippi has always been one of the most economically backward states of the U.S. Its economic structure has been heavily based on agriculture, which has crowded out investment in manufacturing and retarded development. Presently, it has the lowest income per capita and the highest proportion of blacks among U.S. states. In the past, it had one the highest proportion of slaves (0.52 in 1860, ranking third after South Carolina and Louisiana) and it was among the first states to enact de jure disfranchisement in 1890. The state thus represents an ideal setting for investigating the links between local history and subsequent development, both in the medium and in the long run. We start this investigation by investigating first at the determinants of development in 1960 and then we look at the growth-trajectory between the 1960-2000. The development

indicators we consider are income per capita, measures of inequality, education outcomes, and the dependence on agriculture. Therefore, we aim at capturing different facets of the development process, including distributional considerations.

Since our goal is to focus on deep, rather than proximate, determinants of long run development, as in Hall and Jones (1999) we employ parsimonious specifications which emphasize the potential influence of three fundamental factors. The first one is represented by race and the implied legacy of slavery. The second is political disfranchisement, as measured by voting registration per race in 1896. The third is human capital accumulation, as determined by the 'separate but equal' education policies, which we proxy with education expenditure per race in 1954.

These three factors may have affected development through several, non-mutually exclusive channels. For example, the legacy of slavery may still persist because of cultural intergenerational transmission (see Bisin and Verdier, 2005) or because of intergenerational transmission of human capital (Bertocchi and Dimico, 2010). On the other hand, political disfranchisement may have worked through the empowerment of a small elite which has hampered development (see Acemoglu and Robinson, 2008c for a survey of the literature on the subject). Finally, by retarding education among blacks, the 'separate but equal' schooling regime may have caused a sort of racial inequality which may still persist.

4.1. Development in 1960

We start by presenting additional evidence on the economic structure of Mississippi as of 1960. Table 9 reports cross county employment statistics for 1960 (from the Census), which show that the state is still a heavily rural economy with a large share of the population employed in agriculture. The percentage of blacks working in agriculture is close to 40 percent, which in turn implies that almost 54 percent of the population working in agriculture is black. This percentage is maximal in Tunica (almost 86 percent) and other counties along the Mississippi River Delta. On the other hand, only 14 percent of blacks are employed in manufacturing. This percentage represents about one fourth of total population employed in manufacturing. The large majority of the remaining blacks are almost exclusively employed in low skilled sectors like fisheries, mining, etc.

Table 9: Descriptive Statistics, Employment, 1960

Variable	Obs	Mean	Std. Dev.	Min	Max
Employed in Agriculture*	82	27.36	15.59	2.47	66.19
Employed in Manufacturing	82	20.03	8.94	3.62	41.31
Percent of Blacks in Agiculture*	82	39.7	23.7	1.16	84.66
Percent of Black Workers in Agriculture*	82	54.05	24.7	39	86.07
Percent of Blacks in Manufacturing	80	14.5	10.3	17	43.8
Percent of Black Workers in Manufacturing	80	25.09	14.6	4	71.12

* Percentages exclude employment in mining, fisheries, etc.

Table 10 shows descriptive statistics for a broad array of development indicators in 1960, including median income per family, income per capita,[29] racial inequality (measured as black income over white income), and poverty (measured as the share of families in poverty). We also include two education indicators (median years of schooling for total population and black enrolment as a share of black population between age 5 and 35) and an index of agricultural deepening, which we proxy with the employment in agriculture relative to manufacturing. The source for our variables is Census 1960. Tunica is the county which performs worst in terms of most of the above indicators. Median family income in this county is only $1,914 which in per capita terms corresponds to an average income of $661. Its economy is mainly based on agriculture with a ratio of employed in agriculture to manufacturing of 18 to 1. The share of families below poverty is above 70 percent and median years of schooling are 5.2. On the other hand, Hinds is the richest county with an income per capita of $2,990, median family income of $6,209, median years of schooling of 11.9, and a ratio of agricultural dependence of 3 employed in agriculture to 1 in manufacturing. However, although these two counties are at the extremes of the income distribution, black enrolment is not very different (58.5 percent in Tunica vs. 57.3 percent in Hinds).

Table 10: Descriptive Statistics, Development Indicators, 1960

Variable	Obs	Mean	Std. Dev.	Min	Max
Median Family Income	83	3952	816	1914	6209
Imputed Income per Capita	82	1764	445	661	2990
Black/White Income Gap	80	2.401	0.425	1.55	4.147
Poverty	83	0.583	0.115	0.236	0.0778
Median Years of Schooling	83	8.6	1.05	5.2	11.9
Black Enrolment	80	0.625	0.051	0.481	0.726
Agricultural Deepening	82	2.26	0.031	0.685	18.24

[29] Income per capita is imputed using median family income over the 1960-2000 period. Over the 1970-2000 period, the correlation between income per capita and median family income is 0.98. Data on income per capita are collected from the U.S. Bureau of Economic Analysis.

In Table 11 we start our regression analysis with variables that reflect income levels and their distribution in 1960. Since income-related variables are likely to be affected by labor mobility across neighbouring counties we use spatial OLS to control for spatial correlation in the error term. As in previous sections we use parsimonious models in which the dependent variable depends on deep factors of development which, as discussed in Hall and Jones (1999), may have affected development either directly or indirectly (e.g., through accumulation). This approach is justified by the fact that variables which affect development indirectly can be considered endogenous and therefore caused by deep growth determinants.

In Model 1 we use median family income as a proxy for income per capita since Census data for income per capita at the county level are not available for 1960. In Model 2 we replace median family income with the imputed measure of income per capita in order to spot potential differences. Next we turn to poverty (Model 3), agricultural deepening (Model 4), and racial inequality (Model 5). Most of the development indicators used in Table 10 are largely explained by race, either through black emigration (i.e., the ratio of the black share in 1860 over the black share in 1960) as in Models 1-4, and/or through the black share in 1890, as in Models 4 and 5. In particular, migration outflows are associated with larger median and mean income, with lower poverty and a lower level of agricultural dependence, while a larger share of blacks implies larger employment in agriculture and more racial inequality.[30] Other than race, we find that both income measures are negatively affected by land inequality (measured in 1910) which is consistent with the hypothesis that landowners blocked development (see Acemoglu and Robinson, 2008a,b and Galor et al., 2009). Per capita black education expenditure under the 'separate but equal' regime increases income but also racial inequality, while white expenditure is only shown to increase poverty although the effect is barely significant. Moreover, counties which started from a higher level of development, as captured by urbanization in 1890, have higher income, less poverty, and lower dependence on agriculture. While our geographic variables also display significant effects on several indicators, black registration is never a significant factor of development and white registration is only (marginally) significantly positive for racial inequality.

[30] Over a sample of U.S. counties, Bertocchi and Dimico (2010) find that past slavery has a negative effect on per capita income in 1970, but not in subsequent decades, while it is still associated with higher income and racial inequality in 2000.

Table 11: Disfranchisement and Development, 1960

	Model 1	Model 2	Model 3	Model 4	Model 5
Estimation Method: Spatial OLS	Median Inc.	p.c. Income	Poverty	Agric. Deep.	Racial Ineq.
Black Share 1890	-0.0503	-0.0758	0.0823	0.0624***	1.260***
	(-0.30)	(-0.31)	(0.92)	(3.04)	(3.21)
Black Emigration 1890-1960	0.179***	0.224***	-0.101**	-0.0247***	0.212
	(2.78)	(2.84)	(-2.47)	(-3.56)	(1.00)
Black Registration 1896	-0.305	-0.389	0.119	0.0378	0.427
	(-1.26)	(-1.22)	(1.19)	(1.49)	(1.36)
White Registration 1896	0.00584	0.0237	0.0407	-0.0331	0.532*
	(0.04)	(0.14)	(0.74)	(-1.27)	(1.75)
Black Education Expenditure 1954	0.220**	0.279**	-0.0597	-0.0130	0.526**
	(2.15)	(2.01)	(-0.91)	(-0.75)	(2.50)
White Education Expenditure 1954	-0.145	-0.183	0.0961*	-0.00538	0.146
	(-0.96)	(-0.75)	(1.70)	(-0.29)	(0.51)
Land Inequality 1910	-0.115***	-0.142***	0.0226	0.00351	-0.113
	(-3.16)	(-2.98)	(1.20)	(0.96)	(-1.47)
Jackson Dummy	0.709***	0.847***	-0.352***	0.00706	-0.187
	(3.40)	(3.08)	(-3.91)	(0.27)	(-0.45)
Urban Share (log) 1890	0.0228***	0.0277***	-0.0119***	-0.00204***	0.00965
	(3.03)	(3.03)	(-3.73)	(-2.84)	(0.65)
Misssissippi River Delta Dummy	0.0425	0.0528	0.0246	0.0290***	-0.170
	(0.98)	(0.97)	(1.09)	(3.23)	(-1.34)
Distance in Latitude from Jackson	2.627***	3.262***	-1.165***	-0.212***	0.0350
	(5.79)	(5.62)	(-5.38)	(-3.32)	(0.02)
Distance in Longitude from Jackson	-0.837	-1.050	0.251	0.187	-2.826
	(-0.54)	(-0.45)	(0.28)	(0.78)	(-0.50)
Constant	6.339***	5.055*	1.216	0.129	0.845
	(3.08)	(1.65)	(1.15)	(0.46)	(0.12)
Observations	73	73	73	73	71
Spatial Correlation = 0	-4.812***	-4.799***	-2.843	-1.713	-1.236
	(-2.86)	(-2.89)	(-1.55)	(-1.04)	(-0.81)
Variance Ratio	0.49	0.49	0.65	0.70	0.54

*** p<0.01, ** p<0.05, * p<0.1
Robust z statistics in parentheses

In Table 12 we look at two education indicators, again for 1960. While median years of schooling of total population (Model 1) depends negatively on the black share and positively on black emigration, black enrolment (Model 2) only depends negatively on the latter variable. Moreover, black registration has a positive effect in both cases, while white registration is significant, and positive, in the second. Median years of schooling also increase with per capita black education expenditure and the urban share. Geography also matters, since median years are reduced in the Delta, which is largely dependent on agriculture and therefore associated with lower returns to education.

Table 12: Disfranchisement and Schooling, 1960

	Model 1	Model 2
Estimation Method: Spatial OLS	Median Yrs of School	Blk Enrolment
Black Share 1890	-0.206**	0.0394
	(-2.30)	(0.65)
Black Emigration 1890-1960	0.0680*	-0.0408*
	(1.73)	(-1.73)
Black Registration 1896	0.165**	0.0543**
	(2.28)	(1.98)
White Registration 1896	-0.0879	0.107**
	(-1.12)	(2.25)
Black Education Expenditure 1954	0.124***	-0.0313
	(2.63)	(-0.97)
White Education Expenditure 1954	-0.0286	-0.0413
	(-0.47)	(-0.57)
Land Inequality 1910	-0.00632	-0.00279
	(-0.37)	(-0.18)
Jackson Dummy	0.0187	-0.110
	(0.20)	(-1.25)
Urban Share (log) 1890	0.0149***	-0.00178
	(4.65)	(-1.21)
Mississippi River Delta Dummy	-0.0609**	0.00214
	(-2.41)	(0.15)
Distance in Latitude from Jackson	0.951***	0.0733
	(4.60)	(0.49)
Distance in Longitude from Jackson	1.601	0.167
	(1.54)	(0.39)
Constant	-0.815	0.729
	(-0.66)	(1.02)
Observations	73	71
Spatial Correlation=0	-1.589	-3.580**
	(-1.17)	(-2.33)
Variance Ratio	0.70	0.36

*** p<0.01, ** p<0.05, * p<0.1
Robust z statistics in parentheses

To sum up we can say that even though the institutions of the South, as captured by voting registration and ‘separate but equal’, have had some influence on our development indicators, it is race which mainly affects the level of development in the state of Mississippi in 1960. The effect of race, as captured through the black share in 1890 and subsequent black emigration, still exerts an effect on the economic structure of the area: the larger the presence of blacks, either because of a large initial presence or because of lack of emigration, the lower is the level of development and the larger is inequality. A crucial channel of transmission appears to be the persistence of inequality between those working in the fields and those working in the urban sector. Since the former are mainly blacks, we observe a larger income gap between blacks and whites in counties with a larger

agricultural sector. The political channel, as captured by registration in 1896, does affect education outcomes in 1960, but its significance is lost for the broader development indicators we examine, possibly because its influence only runs indirectly through the 'separate but equal' education regime which we control for.

4.2. From 1960 to 2000

We now turn to the long run determinants of economic dynamics, with a focus on the 1960-2000 period. Once again we select several indicators of development, starting with per capita income growth between 1960 to 2000. We also consider the 2000 levels of poverty, income inequality, racial inequality, and agricultural deepening. Data are collected from the U.S. Census Bureau.

Table 13 collects descriptive statistics for a series of economic and educational indicators. Average annual GDP growth per capita over the 1960-2000 period is 5.3 percent with a maximum of 7.2 percent in Tunica and a minimum of 4.2 percent in Sharkey. Fast growth in Tunica is explained by the deep structural changes through which the county has gone during this time period. In 1960 its index of agricultural dependence was equal to 18.2 while in 2000 it is 1.11, smaller than the one for Sharkey (1.20) which in 1960 started at 8.79. On average agricultural dependence for the state as a whole goes from almost 2 employees in agriculture for 1 in manufacturing in 1960 to about 0.2 employees in agriculture to 1 in manufacturing in 2000. The share of the population below poverty in 2000 drops to 0.218 compared to 0.58 in 1960. Racial inequality also drops from 2.4 in 1960 to 1.9 in 2000.

Table 13: Descriptive Statistics, 2000

Variable	Obs	Mean	Std. Dev.	Min	Max
p.c. Income Growth 1960-2000	73	0.053	0.006	0.042	0.072
Poverty	73	0.218	0.068	0.070	0.398
Agricultural Deepening	73	0.273	0.231	0.022	1.205
Racial Inequality	73	1.928	0.360	0.941	2.758
Income Inequality	73	0.581	0.099	0.367	0.792
Education Rate	73	0.454	0.036	0.350	0.526
Whites/Blacks with High Scl Diploma	73	1.070	0.180	0.572	1.603
Whites/Blacks with Bachelor Degree	72	2.464	1.192	0.711	8.619

In Table 14 we start looking at the determinants of development in the 1960-2000 period. The dependent variables are per capita income growth over the period (Model 1), as well as the 2000 levels of poverty (Model 2), income inequality (Model 3), racial inequality (Model 4), and

agricultural deepening (Model 5). For each model we run spatial OLS and we control for the same set of variables used in the previous sections, to capture the potential persistence of the effect of historical determinants on the dynamics. We also enter controls for the initial value of the dependent variable in order to discount for the level reached by the dependent variable by 1960.

More precisely, in Model 1 we enter per capita income in 1960 as a control for GDP growth over the 1960-2000 period, so that we can interpret the significant and negative coefficient of the initial condition as evidence of convergence across the counties of Mississippi, at a rate of almost 2 percent per year. Our proxy for black emigration (i.e., the black share in 1890 over the black share in 2000) is also significantly and positively correlated with growth. Black education expenditure under 'separate but equal', land inequality, urbanization, and location other than in the Delta also have a positive growth influence, albeit with a low significance level (at 10 percent). Turning to the next models, we find that poverty in 2000 is positively correlated with initial poverty (at 10 percent), while the opposite is true for income inequality, which is inversely correlated with initial poverty. Here we use initial poverty as a proxy of income inequality in 1960 since we do not have data for inequality in 1960 (in 2000 the two variables show a correlation equal to 0.79). No path dependence emerges from racial inequality. The latter three dependent variables are all significantly influenced by race, as captured both by the black share in 1890 and black emigration. Namely, poverty as well as income and racial inequality are higher today in counties with a higher initial black share and lower subsequent black emigration. Black registration only shows an inverse correlation with racial inequality, while black education expenditure is negatively associated (although only at a 10 percent level) with poverty and income inequality. Finally, the proxy for agricultural dependence shows path dependence and an inverse correlation with land inequality.

In Table 15 we turn to the analysis of education variables, by looking at the education rate, measured as the share of the population over 25 years of age with either a high school diploma or a bachelor degree (Model 1), and the racial attainment gap, measured as the ratio of whites over blacks with a high school diploma (Model 2), and with a bachelor degree (Model 3). Descriptive statistics are in Table 13. To control for the initial values of the dependent variables, because of lack of data we use proxies (namely, median years of schooling in 1960 in Model 1 and black enrolment in 1960 in Models 2 and 3). The three dependent variables are all associated with race. The education rate is larger in counties with a larger outflow of blacks (Model 1), the racial gap at the high school level is positively associated with the black share in 1890 (Model 2), while the college level racial gap decreases with black outflows (Model 3). Black registration is never significant,

while white registration has a marginally significant positive association with the college level gap. Per capita black education expenditure affects the education rate positively and the college level gap negatively, while white expenditure turns to be inversely related with the high school level gap.

Table 14: Effects on Development between 1960 and 2000

	Model 1	Model 2	Model 3	Model 4	Model 5
Estimation Method: Spatial OLS	p.c. Inc.Growth	Poverty	Income Ineq.	Racial Ineq.	Agric. Deep.
Black Share 1890	-0.00389	0.242***	0.289***	0.703*	-0.00152
	(-1.10)	(3.52)	(3.31)	(1.84)	(-0.82)
Black Emigration 1890-2000	0.00405***	-0.0657***	-0.0932***	-0.155***	-0.000348
	(4.24)	(-5.58)	(-5.13)	(-3.94)	(-1.34)
Black Registration 1896	-0.000323	0.0286	0.0262	-0.538**	0.00244
	(-0.09)	(0.61)	(0.32)	(-2.03)	(1.00)
White Registration 1896	0.000431	-0.0619	-0.0225	-0.0889	-0.00150
	(0.15)	(-1.38)	(-0.59)	(-0.45)	(-1.32)
Black Education Expenditure 1954	0.00351*	-0.0533*	-0.113*	0.0889	0.00127
	(1.72)	(-1.86)	(-1.75)	(0.47)	(0.89)
White Education Expenditure 1954	0.00120	-0.0378	0.0900	0.140	0.000894
	(0.30)	(-0.82)	(1.61)	(0.62)	(0.63)
Land Inequality 1910	0.00139*	-0.00321	-0.0124	-0.144**	-0.000835***
	(1.88)	(-0.35)	(-0.60)	(-2.27)	(-2.78)
Jackson Dummy	-0.00396	-0.0110	-0.0627	0.421	0.000128
	(-0.94)	(-0.20)	(-0.53)	(1.32)	(0.08)
Urban Share (log) 1890	0.000209*	-0.000888	0.00116	0.00800	0.000096
	(1.85)	(-0.56)	(0.44)	(0.92)	(-2.15)
Mississippi River Delta Dummy	-0.00219*	0.0339*	0.0458***	0.197**	0.000604
	(-1.71)	(1.94)	(2.92)	(2.54)	(0.90)
Distance in Latitude from Jackson	-0.0324***	0.363***	0.560**	2.759***	0.0396***
	(-2.93)	(3.01)	(2.46)	(3.20)	(6.53)
Distance in Longitude from Jackson	0.0192	0.207	0.969	0.212	-0.0310
	(0.47)	(0.56)	(1.59)	(0.05)	(-1.08)
p.c. Income 1960	-0.0188***				
	(-7.44)				
Poverty 1960		0.111*	-0.211**		
		(1.77)	(-2.28)		
Racial Inequality 1960				-0.0262	
				(-0.50)	
Agricultural Deepening 1960					0.0534***
					(5.30)
Constant	0.177***	0.0590	-0.727	-1.747	-0.0118
	(2.66)	(0.11)	(-1.03)	(-0.36)	(-0.36)
Observations	73	73	73	71	73
Spatial Correlation = 0	-1.484	-3.875	-3.349	-0.539	-0.578
	(-0.80)	(-1.33)	(-1.13)	(-0.43)	(-0.40)
Variance Ratio	0.82	0.88	0.87	0.71	0.70

*** p<0.01, ** p<0.05, * p<0.1
Robust z statistics in parentheses

Table 15: Effects on Schooling between 1960 and 2000

	Model 1	Model 2	Model 3
Estimation Method: Spatial OLS	Education Rate	Wht/Blk High Schl	Wht/Blk Bachelor
Black Share 1890	-0.0496	0.728***	-2.330
	(-1.46)	(2.76)	(-1.16)
Black Emigration 1890-2000	0.0398***	0.0396	-0.721***
	(6.94)	(1.41)	(-2.67)
Black Registration 1896	-0.0179	0.171	3.524
	(-0.62)	(0.90)	(1.49)
White Registration 1896	-0.00942	-0.183	1.287*
	(-0.39)	(-1.00)	(1.66)
Black Education Expenditure 1954	0.0404**	0.167	-2.314**
	(2.07)	(1.50)	(-2.55)
White Education Expenditure 1954	0.00491	-0.373**	1.219
	(0.21)	(-2.07)	(1.16)
Land Inequality 1910	-0.0103**	0.0963**	-0.369
	(-2.06)	(2.31)	(-1.28)
Jackson Dummy	0.0755***	-0.229	-0.134
	(2.74)	(-0.91)	(-0.09)
Urban Share (log) 1890	0.00222**	0.00265	-0.0592
	(2.31)	(0.38)	(-1.48)
Mississippi River Delta Dummy	-0.0243***	-0.0142	0.846**
	(-3.02)	(-0.21)	(2.18)
Distance in Longitude from Jackson	0.275***	-0.957*	3.210
	(3.84)	(-1.70)	(0.63)
Distance in Latitude from Jackson	0.293	-3.374	10.48
	(1.30)	(-1.37)	(0.90)
Median Years Schooling 1960	0.0633		
	(1.30)		
Black Enrolment 1960		1.469***	-9.362*
		(3.44)	(-1.74)
Constant	-0.436	5.165*	-0.0418
	(-1.46)	(1.70)	(-0.00)
Observations	73	71	71
Spatial Correlation = 0	-3.857*	-1.466	-1.010
	(-1.93)	(-0.84)	(-0.70)
Variance Ratio	0.79	0.28	0.21

*** p<0.01, ** p<0.05, * p<0.1
Robust z statistics in parentheses

Overall, across the development indicators we consider, race emerges as the most robust determinant, either through the legacy of slavery on the black share, or through subsequent changes in the black share induced by migration. In other words, development is heavily and negatively associated with the presence of blacks. On the other hand, political disfranchisement and education policy under 'separate but equal' only exerts a marginal impact. Thus, rather than the political institutions typical of the South, the former use of slave labor is most responsible for the economic development in the area. Indeed, according to Ransom and Sutch (1977), the economic institutions

that replaced slavery not only limited the improvement in the economic conditions of blacks, but also retarded Southern economic development.

5. Conclusion

We have explored the historical influence of nineteenth century de jure disfranchisement in the state of Mississippi, as well as the parallel potential influence of the legacy of slavery as reflected by race. We have first examined the determinants of disfranchisement, to find that black political participation at the end of the nineteenth century is mainly explained by racial factors linked to the legacy of slavery and the presence of blacks, while de jure constraints such as literacy tests and poll taxes do not appear to matter. Turning to the effect of disfranchisement, we have first examined its impact on education outcomes at different points in time, namely 1917 and in the 1950s. Our results show that once again race significantly affects education outcomes, even though black political participation also matters. Next we have investigated the effect of the institutions of the South, as captured by voting registration and 'separate but equal' schooling, in the medium and the long term. Both in 1960 and over the 1960-2000 period, we have found that race is the main determinant of development, while both political disfranchisement and education policies exert a marginal impact. We can conclude that our empirical investigation, which covers a wide array of indicators over more than a century, indicates the predominance of race over suffrage, and more generally of de facto over de jure sources of political and economic power.

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Appendix

Table A1. Sources of Variables

Variable	Source
Black Registration 1896 White Registration 1896 Black Registration 1899 White Registration 1899 Educ Exp per Black Pupil 1954 Educ Exp per White Pupil 1954	United States v. Mississippi Interrogatory Answers, Archives and Special Collections, J.D. Williams Library, The University of Mississippi
Black Share 1890 Slave Share 1860 Black Illiteracy 1900 White Illiteracy 1900 Land Inequality 1890 Land Inequality 1910 Urban Population (log) 1890 Black Share 1890 – Black Share 1860 Black Emigration 1880-90 Black Share 1890 Black Share 1910 Black Share 1950 Black Emigration 1960-2000 (Black Share 1960/Black Share 2000) Sharecropping Intensity 1890 Property Tax per Capita 1954 Education Expenditure per Pupil 1954	Haines, M.R. and the Inter-University Consortium for Political and Social Research, *Historical, Demographic, Economics, and Social Data: The USA, 1790-2000*, ICPSR02896-v2, Colgate University/ Inter-university Consortium for Political and Social Research, 2004
Income per Capita 1960 Racial Inequality 1960 Poverty 1960 White Families in Poverty to Black Median Years of Schooling 1960 Black Enrolment 1960 Agricultural Deepening 1960 Racial Inequality 2000 Poverty 2000 Education Attendance 2000 Income Inequality 2000 White/Black with High Scl. Diploma White/Black with High Scl. Diploma Agricultural Deepening 2000	Measuring America: The Decennial Censuses from 1790 to 2000 - From the USA Census Bureau
Black Teacher/Black Pupil White Teacher/White Pupil	Bond, W.F., *School Laws of the State of Mississippi*, Report of the State Superintendent of Education 1918
Income per Capita 2000	Bureau of Economic Analysis, Table CA1-3, located at www.bea.gov/regional/reis/.

Table A2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Black Registration 1896	75	0.143	0.126	0.0074	0.538
White Registration 1896	75	0.725	0.168	0.344	0.993
Black Registration 1899	75	0.165	0.148	0.008	0.661
White Registration 1899	75	0.836	0.190	0.344	1.376
Black Share 1890	76	0.518	0.227	0.084	0.940
Slave Share 1860	60	0.516	0.209	0.122	0.925
Black Illiteracy 1900	75	0.523	0.071	0.208	0.660
White Illiteracy 1900	75	0.077	0.041	0.008	0.201
Land Inequality 1890	76	1.329	0.572	0.611	4.737
Land Inequality 1910	80	1.206	0.827	.3219357	6.731
Jackson Dummy	83	0.012	0.109	0	1
Urban Population (log) 1890	76	1.491	3.324	0	11.155
Mississippi River Delta Dummy	83	0.180	0.387	0	1
Black Share 1890 – Black Share 1860	60	0.0075	0.064	-0.151	0.122
Black Emigration 1880-90	75	0.011	0.123	-0.262	0.442
Black Emigration 1890-1910	74	1.006507	.1129741	.5308999	1.278337
Black Emigration 1890-1950	74	1.207318	.2697326	.5685399	2.048774
Black Emigration 1890-1960	74	1.237943	.3225461	.5773203	2.174209
Black Emigration 1960-2000	74	1.177153	.573312	.6559392	5.405806
Sharecropping Intensity 1890	76	0.291	0.153	0.014	0.812
Distance in Latitude from Jackson	82	0.930	0.037	0.872	1.003
Distance in Longitude from Jackson	82	0.988	0.0088	0.970	1.004
Black Teacher/Black Pupil	79	0.0197	0.0068	0.008	0.037
White Teacher/White Pupil	79	0.045	0.019	0.017	0.165
Property Tax per Capita 1954	83	24.012	9.546	9.532	59.88
Educ Exp per Black Pupil 1954	81	91.518	18.539	51	153
Educ Exp per White Pupil 1954	81	173.85	43.793	109	396
Income per Capita 1960	82	1764.26	445.092	660.48	2990.52
Racial Inequality 1960	80	2.400	0.425	1.550	4.147
Poverty 1960	83	0.583	0.115	0.236	0.778
White Families in Poverty to Black	80	0.660	0.226	0.239	1.241
Median Years of Schooling 1960	83	8.607	1.052	5.2	11.9
Black Enrolment 1960	80	0.625	0.051	0.481	0.726
Agricultural Deepening 1960	82	2.220	3.105	0.60	18.248

Table A3: Determinants of Black Share, Black Migration, and Land Inequality

	Dependent Variables:		
	Model 1	Model 2	Model 3
Estimation Method: OLS	Black Share 1890	Blk Emigr. 1880-90	Land Ineq.1910
Slave Share 1860	1.093***	-0.350***	
	(20.73)	(-5.01)	
Land Inequality 1860	-0.00907	0.0172	
	(-1.50)	(1.56)	
Jackson Dummy	0.0463	-0.0409*	5.145***
	(1.32)	(-1.82)	(19.41)
Mississippi River Delta Dummy	0.0367	0.0886**	-0.0324
	(1.39)	(2.40)	(-0.30)
Distance in Latitude from Jackson	-0.0210	0.952***	0.0716
	(-0.07)	(3.35)	(0.01)
Distance in Longitude from Jackson	1.145	0.243	4.597*
	(0.69)	(0.17)	(1.71)
Flat Plains Dummy	0.0517	0.334***	-0.587***
	(0.98)	(5.65)	(-3.15)
Irregular Plains Dummy	0.0755**	0.00735	-0.0580
	(2.22)	(0.21)	(-0.45)
Open Low Hills Dummy	0.109***	0.00519	-0.0618
	(3.40)	(0.16)	(-0.42)
Black Registration 1896			0.587
			(1.16)
White Registration 1896			-0.714**
			(-2.40)
Land Inequality 1890			0.321*
			(1.85)
Constant	-1.225	-1.023	-3.039
	(-0.67)	(-0.68)	(-0.36)
Observations	60	60	75
R-Squared	0.94	0.72	0.83

Robust t statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A4: Determinants of Voting Registration per Race in 1899

	Dependent Variable: Registration per Race 1899			
	Model 1	Model 2	Model 3	Model 4
Estimation Method: Spatial OLS	Blk Registr.	Blk Registr.	Blk Registr.	Wht Registr.
Black Illiteracy 1990	-0.533**	0.0727	0.104	
	(-2.31)	(0.40)	(0.46)	
Black Share 1890		-0.504***	-0.584***	0.165
		(-6.76)	(-8.13)	(1.09)
Land Inequality 1890	-0.0968***	-0.0696***	-0.0721**	-0.0298
	(-2.85)	(-3.21)	(-2.46)	(-0.79)
Jackson Dummy	-0.116***	-0.102***	-0.0659	0.0123
	(-2.63)	(-2.98)	(-1.39)	(0.12)
Urban Share (log) 1890	-0.00924***	-0.00382	-0.00257	-0.0130**
	(-2.64)	(-1.64)	(-0.94)	(-2.13)
Mississippi River Delta Dummy	-0.119***	-0.00446	-0.000128	-0.0966
	(-3.58)	(-0.17)	(-0.00)	(-1.32)
Sharecropping Intensity	-0.259***	0.0645	-0.116	0.0363
	(-2.67)	(0.91)	(-1.26)	(0.11)
Black Infant Mortality 1890	-0.000576	-0.000307		
	(-1.29)	(-1.02)		
Black Emigration 1880-90	-0.0864	0.0858		
	(-0.74)	(1.12)		
Distance in Latitude from Jackson			-0.502	-0.815
			(-1.11)	(-0.73)
Distance in Longitude from Jackson			-4.518***	-0.121
			(-2.94)	(-0.03)
White Illiteracy 1900				-0.640
				(-0.85)
Constant	0.736***	0.494***	5.480***	1.741
	(4.19)	(4.69)	(3.01)	(0.33)
Observations	74	74	75	75
Spatial Correlation=0	-0.797	-1.757	-3.049**	0.00217
	(-0.51)	(-1.25)	(-1.96)	(0.00)
Variance Ratio	0.30	0.61	0.64	0.16

Robust t statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1