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Institutional and Agency Effects on the Status of Free Blacks: Synthesizing Asymmetrical Laws and Social Conditions With Asymmetrical Economic Outcomes, Economic History and Labor

James Curtis Jr*

** James Curtis Jr is the President of The James Edward Curtis Jr Education Foundation and. Director of The Office of Pro Bono Correspondence, PO Box 3126, Washington, District of Columbia 20010;*

ABSTRACT: *Leon Litwick (1961) and Ira Berlin (1974) provide the most comprehensive historical accounts of free blacks in the north and south, respectively. This paper attempts to build upon their successes by presenting a national study that combines the legal, demographic and economic experiences of free blacks, with an extended analysis of antebellum wealth inequality. In doing so, I propose the asymmetry hypothesis, which is an investigation of the link between the social conditions and economic outcomes of free blacks relative to whites. For the empirical portion of the study, I employ cross-sectional variables from the IPUMS samples. This paper finds that economic differences between free blacks and whites were intertwined with asymmetrical social constraints. While the legal and social status of free blacks was significantly better than slaves, their status did not equal that of whites. Yet free blacks did attempt to overcome the social conditions by structuring their households to provide a basic foundation for the pursuit of happiness.*

KEY WORDS*: Constitution, government, free blacks, wealth inequality, economic discrimination, discrimination theory.*

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I. INTRODUCTION:

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THE ECONOMIC ANALYSIS OF THE CONDITION OF FREE BLACKS IN THE UNITED STATES OF AMERICA COMPARED TO EX-SLAVES AND WHITE AMERICANS IN THE MID 19TH CENTURY: Several anecdotal studies on free blacks in the labor market show that the poor legal and social conditions made it difficult for free blacks to be economically competitive. For instance, free blacks had to compete with slaves, whites and immigrants for employment. "The preference of employers for white or slave labor forced free Negroes to underbid whites and work on the same terms as slaves. By accepting lower wages and longer hours, many free Negroes found employment, but they aroused the ire of white workingmen, who complained that free Negroes depressed their standard of living" (Berlin, p.229). Immigration put free Negroes in the same position: "The influx of Irish and German workers…speeded the exclusion of Negro freeman from many occupations. The competition free Negro workers faced from newly arrived immigrants in Baltimore was a typical example of how white immigrants limited the free Negro's opportunities" (p.231). They tended to earn wages and income that were much less than whites. One local study shows that: "Racial prejudice relegated many free Negro workers to the meanest drudgery at the lowest pay…Even at these low levels of employment, free Negroes were often paid less than whites. The standard wage for day laborers in the Norfolk shipyards (for example) was one dollar, but free Negro workers rarely earned more than seventy-five cents a day" (Berlin, p.227).

But studying racial differences in factor market supply decisions and prices, as reflected in the literature on labor supply, wages and income, presents only a subset of the factors that determine the accumulation and storage of assets over the lifetime of black and white households. Therefore, this study will focus on differences in wealth between blacks and whites in the middle of the 19th Century.

Related Studies: A Review of the Literature on the Study of Free Blacks : The source of antebellum free black-white wealth differences has not studied. Researchers (e.g., Bodenhorn (1999), Eggert (1997), Hershberg (1997), Berlin (1974), Litwick (1961), Jackson (1939), and DuBois (1899)) and Philadelphia abolitionist society studies in 1849 and 1838 attempted to address free black-white wealth differences often using a piece-mill approach. Foremost, Leon Litwick (1961) and Ira Berlin (1979) provided a historical account for experience of northern and southern free blacks, respectively. After surveying past research efforts, compiling county records and compiling census manuscripts, Berlin found that free blacks in several states possessed more property over time. But these results are obscured by the aggregate measures of wealth. For instance, he found that the aggregate wealth of free blacks living in fifteen counties in Georgia nearly doubled between 1850 and 1860. But we do not know why their wealth increased because correlations with explanatory variables were not calculated.

Luther Jackson (1939) also analyzed the property and real estate wealth of free blacks in the South. He used tax books, deeds, orders, legislative petitions, agricultural manuscripts and census manuscripts from Virginia to show that the amount of property held by free blacks in 1830 tripled by 1860. Even though Jackson provided a brief statistical analysis, the inference of his study is limited to Virginia and he did not employ methods to explain what drove his observations.

Bodenhorn (1999a) used 1860 US census data to analyze southern wealth differences among darker and lighter free blacks. Based on censored quantile regression results using data from Maryland, Virginia, North Carolina, Kentucky and Louisiana, mulattos had wealth advantage to darker free blacks. Similarly, Bodenhorn (1999b) employs data stature of darker and lighter free blacks. He also found that mulattos had an advantage to darker free blacks when analyzing stature data from Virginia. While Bodenhorn did employed modern statistical analyses, inference from this study is limited to several states.

Some research has also been conducted on free black wealth in localities within Pennsylvania. Gerald Eggert (1997) linked US Census records of blacks in Harrisburg, Pennsylvania from 1850-60 to estimate property values of free blacks. He found stagnant wealth among a large percentage of the population but growth among those who did not migrate. However, his study did not compare results to migrants and was limited to one locality. Theodore Hershberg (1997) employed abolition society data on the socioeconomic conditions of free blacks in Philadelphia to show that real and personal wealth fell ten percent between 1838 and 1847.

Similarly, W. E. B. Dubois (1899) used these records and tax receipts to show that free blacks in Philadelphia often held less property than whites. However, Hershberg and Dubois do not use the analytical tools needed to fully explain their results. Their studies lack a full description of the data collection procedures in their research. To analyze the link between these social conditions and economic outcomes of free blacks, I employ wealth and cross-sectional variables from the 1850, 1860 and 1870 Integrated Public Use Microdata Samples (IPUMS).

Descriptive Statistics: An Analysis of the IPUMS Data Employed for the Study of the Economic Condition of Free Blacks in United States of America, Compared to Ex-slaves and White Americans

This study uses data from the Integrated Public Use Microdata Sample (IPUMS). IPUMS data are based on national representative samples and supplemental over-samples of minorities from the population schedules of the US census manuscripts. The US conducted its first census in 1790 and its first modern census in 1850. By 1850, the census had improved such that we can now investigate the past with new insights. Modern census data is a rich set of cross-sectional, individual-level data on American families and individuals.

Magnuson (1995a) and Steckel (1991) recommend that researchers pay careful attention to enumeration the procedures before investigating this data. Magnuson reports that the U.S. Census is not a "pure reflection of general societal trends"(p. 11). The census is composed of questions, which have and have not persisted over time. Between 1790 and 1840, the unit of enumeration was the household, based on given set of characteristics, i.e. Colored-Male-Over Age 16. The 1850 U.S. Census was considered the first modern Census when the unit was changed to the individual. Magnuson also noted that a proposed slave schedule would have collected extensive information on the ancestors of modern-day African Americas. In 1840, Congress formed the Census Board that unsuccessfully recommended a slave schedule for the 1850 U.S. Census--which would have included

the names of slaves, birthplace of slaves and number of children (Magnuson 1995a, p.19). Steckel reminds us that the original purpose of the US census was for taxa tion and US House of Representatives appropriations. However, a "growing desire for statistical information, curiosity about society, and heightened interest in international and regional comparisons led to expanded collection by the federal census" (Steckel 1991, pp.582-83). Steckel suggested that the likelihood of error increases as early census data is more disaggregated. He noted that under-enumeration, over-enumeration and misreporting are errors that affect the quality of census data and led to the creation of the Census Bureau. Some of these errors may be attributed to the poor training of early enumerators and lower quality of early census administration. He found that larger households, lower-educated persons and persons with poor English-language skills tended to be omitted from the census. Steckel (1991) provided several examples of underenumeration in census data collected on blacks. He recommended using census comparisons, census matching, and consistency checks to evaluate errors and improve the quality of samples from the early census.

This study analyzes US census samples from the 1850-70. These census manuscripts contain responses to important socioeconomic inquiries including age, sex, color, marriage status, literacy, whether the individual attended school during the year, occupation, state or country of birth, value of real estate, and value of personal estate (1860 and 1870 only).

Real estate value was enumerated based on guidelines specified in the Circular to Marshals. It specified that "under heading 8 insert the value of real estate owned by each individual enumerated. You are to obtain the value of real estate by inquiry of each individual who was supposed to own real estate, be the same located where it may, and insert the amount in dollars. No abatement of the value is to be made on account of any lien or encumbrance thereon in the nature of debt" (Magnuson 1995b, p347) Personal estate value was also enumerated based on guidelines that specified "Personal estate is to be inclusive of all bonds, stocks, mortgages, notes, live stock, plate, jewels, or furniture, but exclusive of wearing apparel" (p.349)

Economists have conducted an extensive amount of research based on national samples from the early US census manuscripts (see e.g. Ferrie 1999, 1994; Steckel 1990; Becker and Tomes 1986 and Soltow 1975, 1972). The sample studied in this paper was restricted to heads of households. Investigating the wealth from a random sample of household heads is more productive than investigating a random sample of individuals. Wealth is often used to purchase durable goods and durables are more likely to benefit the entire household rather than one individual in a household. Furthermore, census enumerators tended to sum up the wealth of a household and report it under the head of household. The final sample includes a 1-in-100 random sample from the 1850-70 censes and supplemental samples of 1-in-50 blacks in 1860 and 1870. The racial breakdown of the pooled sample is 21,416 blacks and 154,569 whites. Prior to 1865, blacks were not only stratified by skin color--black and mulatto--but they also functioned based on heterogeneous legal rights. Blacks were either bounded in slavery or free, contingent on appropriate documentation. The 1850 and 1860 IPUMS samples only include free blacks. As reported earlier, no detailed individual-level data is available on slaves. Thus, averages of wealth and property holding in the descriptive statistics were weighted based on (*i*) the size of the free black population relative to slave population in 1850 and 1860 and (*ii*) the assumption that slaves had no personal and real estate. Blacks were 15.7 percent of the US population in 1850 and 14.2 percent of the population in 1860 (Cramer 1997). But free blacks represented 11.9 percent and 11.0 percent of the black population, respectively. The unweighted averages in 1850 and 1860 represent the experience of (*i*) the average free black and (*ii*) the average black if slaves were freed earlier.

The decade before the Civil War was a ripe environment for economic prosperity. Thomas Weiss (1992) found that Gross Domestic Product (GDP) grew by 1.96 percent between 1850 and 1860--higher than any other decade in the pre-war era. He suggested that although perishable output and shelter were the primary components of the gain, residual output also increased significantly. The residual was "the portion of output beyond apparent basic necessities…this was the output needed for industrialization, and of course provided as well the discretionary items that are the fruits of economic progress. In this light, Americans were advancing in style" (Gallman, p.30).

Macroeconomic Factors Impacting the Experience of Free Blacks in the United States of America : The decade immediately before the Civil War was a ripe environment for economic prosperity among free blacks. "The industrial revolution in the United States was well underway by the 1850's but the end points of the time period were not marked by unusual prosperity or depression. Gold discoveries and growing agricultural exports to Europe contributed to economic growth from the late 1840's to the middle of the decade. The upswinght was halted by the Panic of 1857, a financial convolution from which recovery was substantially complete by 1860"

(Steckel 1990, p.374). After making state-level adjustments to agricultural labor force, Weiss (1992) found the growth of Gross Domestic Product (GDP) was higher in the decade before the Civil War than any other decade in the period. Table 7b shows that perishable output and shelter were the primary components of the gain. But the residual increased significantly. The residual was "the portion output beyond apparent basic necessities…this was the output needed for industrialization, and of course provided as well the discretionary items that are the fruits of economic progress. In this light, Americans were advancing in style" (Galman, p.30).

Table 7a. Average Annualized Rates of Growth of Per Capita Gross Domestic Product and Components (1840 Prices)

Decade	Growth in GDP	Perishable Output	Non-Perishable Output			
			Shelter	Home Manufacturing	Farm Improvements	Residual
1800-10	0.52	0.24	0.53	-0.03	1.80	1.16
1810-20	0.27	0.00	0.83	-0.01	-0.63	0.85
1820-30	0.72	0.23	2.16	-0.16	-1.01	1.65
1830-40	1.15	0.22	2.20	-0.46	-0.70	2.74
1840-50	0.93	0.44	-0.75	0.42	0.81	2.02
1850-60	1.96	1.58	0.96	-0.41	-2.12	3.10

Source: Information collected and compiled by James Curtis Jr (2002) from Gallman (p. 31)

The Descriptive Statistics of the IPUMS Data Employed to Study Free Blacks in the United States of America

Tables 7b-1, 7c-2 and 7d-3 describe the means of the variables in the IPUMS sample:

Table 7b-1. The Sample Means of the IPUMS Data, 1850 through 1870

Race:	Black					White			Overall		
Year:	1850		1860		1870	1850	1860	1870	1850	1860	1870
	Free	All	Free	All	All						
Wealth Variables											
Personal Estate			208	(23)	53		1,404	1,112		1,363	880
Real Estate	171	(20)	277	(30)	71	1,336	1,975	2,436	1,311	1,916	1,919
Total Estate			484	(53)	124		3,379	3,548		3,280	2,799
Price-Adjusted Personal Estate			215	(24)	34		1,506	741		1,462	586
Price-Adjusted Real Estate	189	(22)	286	(31)	47	1,486	2,050	1,643	1,458	1,990	1,294
Price-Adjusted Total Estate			501	(55)	81		3,556	2,384		3,452	1,880
Personal Estate > 0			0.551	(0.061)	0.211		0.811	0.703		0.801	0.595
Real Estate > 0	0.194	(0.023)	0.245	(0.027)	0.067	0.531	0.557	0.546	0.524	0.546	0.441
Total Estate > 0			0.585	(0.064)	0.235		0.838	0.758		0.829	0.643
Farm ownership	0.114	(0.014)	0.119	(0.013)	0.194	0.506	0.445	0.410	0.498	0.434	0.363
Wealth Ratio (to Whites)											
Personal Estate			0.148	(0.016)	0.048					0.97	0.79
Real Estate	0.128	(0.015)	0.140	(0.015)	0.029				0.98	0.97	0.79
Total Estate			0.143	(0.016)	0.035					0.97	0.79
Price-Adjusted Personal Estate			0.143	(0.016)	0.046					0.97	0.79
Price-Adjusted Real Estate	0.127	(0.015)	0.139	(0.015)	0.029				0.98	0.97	0.79
Price-Adjusted Total Estate			0.141	(0.015)	0.034					0.97	0.79
Personal Estate > 0			0.679	(0.075)	0.300					0.99	0.85
Real Estate > 0	0.366	(0.043)	0.440	(0.048)	0.122				0.99	0.98	0.81
Total Estate > 0			0.698	(0.077)	0.310					0.99	0.85
Farm ownership	0.225	(0.027)	0.267	(0.029)	0.473				0.98	0.98	0.88
Race Variables											
Black	1.000		1.000		1.000	-	-	-	0.022	0.032	0.217
Black	0.677		0.635		0.881	-	-	-	0.015	0.020	0.191
Mulatto	0.323		0.365		0.119	-	-	-	0.007	0.012	0.026
White	-		-		-	1.000	1.000	1.000	0.978	0.966	0.781
Other	-		-		-	-	-	-	-	0.002	0.002
Chinese	-		-		-	-	-	-	-	0.001	0.001
Indian	-		-		-	-	-	-	-	0.001	0.001
Schooling Variables											
Literacy	0.527		0.583		0.146	0.903	0.913	0.885	0.895	0.902	0.724
Occupation Variables											
Labor Force Participation	0.656		0.823		0.890	0.873	0.910	0.887	0.868	0.907	0.888
Unskilled	0.371		0.509		0.705	0.100	0.146	0.230	0.106	0.158	0.333
Skilled	0.166		0.191		0.071	0.218	0.233	0.227	0.217	0.232	0.193
White-Collar	0.018		0.019		0.009	0.085	0.107	0.119	0.083	0.104	0.095
Farmer	0.107		0.112		0.187	0.475	0.431	0.395	0.467	0.420	0.349
Student or Retired	-		0.001		0.000	0.000	0.002	0.009	0.000	0.002	0.007
Other	0.338		0.167		0.027	0.122	0.082	0.020	0.127	0.085	0.022

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Table 7b-2. The Sample Means of the IPUMS Data, 1850 through 1870

Race:	Free Blacks			Whites			Overall		
Year:	1850	1860	1870	1850	1860	1870	1850	1860	1870
Demographic Variables									
Male	0.750	0.727	0.820	0.910	0.908	0.893	0.907	0.902	0.877
Number of persons in the household	4.581	4.684	4.705	5.532	5.267	5.166	5.511	5.247	5.064
Number of families in the household	1.295	1.263	1.194	1.382	1.354	1.371	1.380	1.352	1.335
Married	0.639	0.613	0.716	0.830	0.822	0.818	0.826	0.814	0.794
Number of children > 0	0.688	0.715	0.746	0.818	0.810	0.804	0.815	0.806	0.790
Number of children	2.023	2.117	2.233	2.819	2.619	2.504	2.802	2.600	2.442
Number of children under 5 years old	0.589	0.553	0.682	0.752	0.750	0.662	0.748	0.742	0.665
Youngest child	4.916	5.675	4.413	5.239	5.173	5.750	5.232	5.187	5.452
Oldest child	9.366	10.521	9.462	11.372	10.852	11.317	11.328	10.834	10.899
Age	42.450	42.890	39.839	41.525	41.384	42.806	41.546	41.424	42.146
< 20 years old	0.009	0.007	0.018	0.003	0.004	0.004	0.003	0.004	0.007
20-29 years old	0.182	0.176	0.258	0.197	0.195	0.172	0.197	0.194	0.191
30-39 years old	0.274	0.254	0.248	0.301	0.304	0.276	0.300	0.302	0.270
40-49 years old	0.225	0.244	0.214	0.231	0.233	0.243	0.231	0.233	0.236
50-59 years old	0.171	0.170	0.146	0.149	0.151	0.172	0.149	0.151	0.166
60-69 years old	0.085	0.093	0.080	0.082	0.080	0.093	0.082	0.080	0.090
70-79 years old	0.035	0.035	0.026	0.029	0.027	0.033	0.029	0.028	0.032
80-89 years old	0.009	0.018	0.007	0.007	0.006	0.006	0.007	0.006	0.006
90+ years old	0.009	0.004	0.003	0.001	0.001	0.000	0.001	0.001	0.001
Region Variables									
Rural	0.621	0.615	0.863	0.802	0.753	0.718	0.798	0.749	0.749
Metropolitan area	0.224	0.258	0.066	0.122	0.172	0.196	0.125	0.175	0.168
Slave state	0.528	0.525	0.908	0.286	0.255	0.249	0.291	0.263	0.391
Northeast	0.054	0.050	0.006	0.145	0.121	0.106	0.143	0.118	0.084
Mid-Atlantic	0.304	0.253	0.033	0.293	0.276	0.252	0.293	0.275	0.204
Midwest	0.113	0.153	0.052	0.263	0.320	0.361	0.260	0.314	0.294
Southeast	0.493	0.474	0.747	0.256	0.215	0.208	0.261	0.223	0.324
Southwest	0.035	0.050	0.161	0.031	0.040	0.041	0.031	0.040	0.067
West	0.001	0.019	0.002	0.012	0.028	0.032	0.012	0.030	0.027
Moved to Northeast	0.023	0.023	0.003	0.023	0.029	0.031	0.023	0.029	0.025
Moved to Mid-Atlantic	0.097	0.079	0.012	0.106	0.117	0.109	0.106	0.116	0.088
Moved to Midwest	0.102	0.118	0.037	0.210	0.244	0.251	0.208	0.239	0.204
Moved to Southwest	0.010	0.013	0.102	0.026	0.033	0.033	0.026	0.033	0.048
Moved to Southeast	0.006	0.006	0.006	0.025	0.026	0.027	0.025	0.025	0.023
Moved to West	0.001	0.016	0.002	0.009	0.025	0.029	0.009	0.025	0.024
Stayed in Northeast	0.031	0.028	0.003	0.123	0.092	0.075	0.121	0.089	0.059
Stayed in Mid-Atlantic	0.207	0.174	0.021	0.187	0.158	0.144	0.188	0.158	0.117
Stayed in Midwest	0.010	0.035	0.015	0.053	0.076	0.110	0.052	0.075	0.090
Stayed in Southwest	0.025	0.038	0.058	0.005	0.006	0.008	0.005	0.007	0.019
Stayed in Southeast	0.486	0.469	0.741	0.230	0.190	0.180	0.236	0.198	0.302
Stayed in West	-	0.002	0.000	0.004	0.004	0.003	0.004	0.005	0.003

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Table 7b-3. The Sample Means of the IPUMS Data, 1850 through 1870

Race:	Free Blacks			Whites			Overall		
Year:	1850	1860	1870	1850	1860	1870	1850	1860	1870
Region Variables (continued)									
Migrated to a different state	0.340	0.343	0.359	0.545	0.594	0.597	0.540	0.586	0.546
Migrated to a different region	0.241	0.255	0.162	0.398	0.474	0.479	0.395	0.467	0.411
Born in Northeast	0.035	0.038	0.004	0.174	0.134	0.108	0.171	0.130	0.085
Born in Mid-Atlantic	0.225	0.197	0.024	0.266	0.242	0.223	0.265	0.240	0.179
Birn in Midwest	0.012	0.037	0.020	0.058	0.084	0.120	0.057	0.083	0.099
Born in Southeast	0.682	0.669	0.886	0.325	0.274	0.254	0.333	0.286	0.391
Born in Southwest	0.026	0.041	0.063	0.005	0.007	0.009	0.006	0.008	0.021
Born in West	-	0.002	0.000	0.004	0.004	0.003	0.004	0.005	0.003
Born in other US Territory	0.001	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.000
Born in foreign country	0.019	0.015	0.002	0.168	0.256	0.282	0.165	0.248	0.222
Price Index									
Regional Price Index	88.45	93.53	158.32	90.15	97.46	149.86	90.11	97.34	151.69
Number of Observations	773	1,703	18,940	34,671	51,776	68,122	35,444	53,594	87,227

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Five years after emancipation, blacks made gains in the total wealth. Total wealth includes the value of personal and other wealth. The value of southern total estate was inflated by the value of slaves. Slave owners included the value of slaves in their personal estate. On average, the value of black total wealth, adjusted by regional prices, was $124 in 1870 while whites held $3,548 in total estate. Total estate wealth grew by 47 percent between 1860 and 1870 among blacks while white total estate wealth fell 33 percent between 1860 and 1870. See the empirical results section for a complete discussion of black-white wealth differences.

Black-white differences in schooling and employment were also quite large in 1870. 14.6 percent of the black population was literate while 88.5 percent of the white population could read and write. While 89 percent of both, blacks and whites, were employed, occupation concentrations were different. In 1870, 70.5 percent of blacks had unskilled jobs, compared to 23 percent of whites. In contrast, 18.8 percent of blacks were either white-collar workers or farmers, compared to 53.8 percent of whites.

White occupational concentrations changed quite dramatically between 1850 and 1870. The portion of white unskilled workers grew 46.2 percent between 1850 and 1860 and 57.3 percent between 1860 and 1870 while the portion of white-collar worker grew less dramatically during this period. The portion of white-collar workers grew 25.8 percent between 1850 and 1860 and 12.1 percent between 1860 and 1870. Simultaneously, the portion of white farmers fell 9.3 percent between 1850 and 1860 and 8.4 percent between 1860 and 1870. Naturally, this coincided with a continual decline in farm ownership among whites over the twenty-year period.

Blacks and whites were also different demographically in 1870. 18 percent of black households had female heads while only10.7 percent of white households had female heads. Similarly, only 71.6 percent of black household heads were married while 81.8 percent of white household heads were married. White households also had more residents, including children. Furthermore, the average age of the white household head, youngest child and oldest child is older than the average ages of the black household head, youngest child and oldest child, respectively. White demographics gradually changed over the twenty-year period. The number of persons in a household, number households with children and number of children all fell. Simultaneously, the number of white male and white married household heads fell. Among free blacks, the proportion that was male and married also fell between 1850 and 1860. Regional differences were also quite large in 1870. The only dramatic regional differences among whites prior to 1870 were changes in the western and foreign-born population. 12 percent of whites lived in west in 1850. This portion of the population grew by 129 percent between 1850 and 1860 and 12 percent between 1860 and 1870.

Additionally, Joseph Ferrie reports that the portion of white foreign-born population grew by 52 percent between 1850 and 1860 and 10 percent between 1860 and 1870 (1999). 1850 and 1860 free blacks were regionally different than whites and all blacks in 1870. Only one-in-two free blacks lived in slave states, with the remaining plurality living in the Mid-Atlantic. More than one-in-three free blacks lived in urban areas between 1850 and 1860—significantly larger than whites and all blacks in 1870. One-in-three free blacks were also born outside of the southeast region in 1850 and 1860. Furthermore, 34 percent of free blacks migrated to a different state in 1850 and 1860 and over seventy percent of these migrants migrated to a new region. Only one-in-four whites lived in former slave states while nine out of ten blacks lived in former slave states. As a result blacks were more likely to live in rural areas than blacks (86.3 percent of blacks to 71.8 percent of whites). This occurred because whites were more regionally mobile than blacks. 35.9 percent of blacks migrated from their birth state and 45 percent these migrants reside in a new region. However, 59.7 percent of whites migrated from their birth state and 80 percent of these migrants changed regions. The key regional difference may be that only 11.4 percent of blacks were born outside the Southeast while the largest birth segment among whites was foreign-born (28.2 percent). Joseph Ferrie conducts a thorough analysis of the immigrant experience during this period (1999).

Five years after emancipation, blacks, on average, held $71 in real estate wealth while whites held $2,437. These estimates are consistent with the estimates of Soltow (1972; 1975). Although Soltow (1972) only collected a sample of 393 non-whites in 1870, he found their average wealth was $73, compared to $2,661 among whites. Soltow (1975) found similar differences in free black and white wealth using a sample of 151 blacks. He conducted one of the first in-depth studies of mid-nineteenth century wealth accumulation patterns using the census population schedules. Note that these schedules were originally are stored on microfilms. He spun the microfilm half-turns to collect random, cross-sectional samples from 1850-1870. He found that average black wealth in 1870 was $74 while average white wealth in $2,691.

Given that blacks held only 2.9 percent of the average white real estate wealth in 1870--up from the 1.5 percent in 1850 and 1860, the fact that the growth of real estate wealth favored blacks over this time period may not be surprising. Among blacks, average real estate wealth, adjusted by regional prices, grew by 28 percent between 1850 and1860 and 33 percent between 1860 and 1870. Among whites, price adjusted real estate wealth also grew by 28 percent between 1850 and 1860 but fell by 25 percent between 1860 and 1870. This white wealth recession was primarily due to the losses incurred by the southern whites after the Civil War.

Property-holding patterns were similar to real estate wealth patterns. Only 6.7 percent of blacks in 1870 held property (or a positive value of real estate wealth) while 54.6 percent of whites held property in 1870. The growth in black property-holders outpaced the growth of black real estate wealth. Blacks property holders grew 17 percent between 1850 and 1860 and 148 percent between 1860 and 1870. Among whites, property holders grew by five percent between 1850 and 1860 and fell two percent between 1860 and 1870. Overall, the ratio of black to white property holders was 12.2 percent in 1870, up from 4.3 percent in 1850 and 4.8 percent in 1860.

Blacks made similar gains in the total estate. Total estate includes the value of personal estate and real estate. The value of southern total estate was inflated by the value of slaves. Slave owners included the value of slaves in their personal estate. On average, the value of black total estate wealth, adjusted by regional prices, was $124 in 1870 while whites held $3,548 in total estate. Total estate wealth grew by 47 percent between 1860 and 1870 among blacks while white total estate wealth fell 33 percent between 1860 and 1870. Black total estate holders (or blacks possessing a positive value of total estate wealth) grew by 265 percent to 23.5 percent in 1870 while white total estate holders fell by 9.6 percent to 75.8 percent in 1870. Overall, the ratio of black to white total estate wealth was 3.5 percent while the ratio of black to white total estate holders was 31 percent in 1870.

These descriptive statistics document the general improvements in the condition of the average black relative to the average white after the abolition of slavery.

Economic Theory: The Economic Expectations before Investigating Evidence in the Data

The Study of Wealth. Wealth is the accumulation of material resources that have market value for current or future consumption. Furthermore, savings, initial wealth and the compounded rate of return on the invested savings and initial wealth determine wealth. The following section describes universal and group-based expectations, based on economic theory, in the areas of economic growth (including wealth, property and savings), economic inequality, and comparative economic outcomes. Wealth, property, and measures of classical economic choice characteristic will be employed to measure outcomes, compared to expectations.

Economic Growth and the Parabolic Property Ownership Expectations. To analyze the relationship between age and property, I employ methods developed by Lee Soltow (1975). He expected the old to hold more property than the young: He found that plots of individuals holding property across age groups shows a "very rapid rise in the probability of ownership in the first 10 years of adulthood with a tapering affect appearing thereafter" (Soltow, p.28). He suggests that this concavity was affected by the income and savings decisions and distribution of the population.

Soltow used estimates of non-property-holders to develop a parabolic model of property holding over different age rages. This theoretical parabolic behavior is based on an assumption that proportion of non-property-holders is fixed across age groups. Soltow expects that 79.3 percent of thirty year-olds who did not hold property in their twenties will not hold property for the same reason as the 79.3 percent who did not hold property when they were in their twenties:

"The .793 is a quantification of the importance of all those characteristics inhibiting ownership, such as lack of knowledge of available land or credit, inability to speak or write English or possibly read any other language, unwillingness to accept the obligations of ownership, inability to save because of low income or high consumption, legarthy because of sickness or poor health, and so on. If quantification of .79 were to operate for the group from age 30 to 39, one would expect the .793 of the property-less at age 30 to remain property-less. Thus, $1-(.793)^2$ would own property in the 30-39 group" (Soltow, 1972, p.30).

"The strength of America's system, as seen by nineteenth century writer, was that an individual had the opportunity to improve his position over time. This opportunity meant that he was not placed in a fixed position in society. He might have had to work hard, but he could expect betterment in his wealth status. We can capture this phenomenon by studying the participation rate (proportion of men who held property) of peoples of different ages in a given year. Sure this rate, as measured by (real estate holding) or (total estate holding) must be higher for the old than for the young....If the majority of individuals in the economy are to experience betterment in economic position during their lifetimes, more and more should rise above the level of being poor, above some minimum wealth amount" (p.27).

Economic Growth and the Linear Growth in Wealth Expectations. To analyze the relationship between age and wealth, I employ additional methods that were first employed by Soltow (1975). He plotted age-wealth coordinates and expected a positive relationship: "Material betterment dominated the economic thinking men. Those with wealth expected to have more each year as they grew older; accumulation was a sign or index of recognition of an individual's past economic activities. Wealth mirrors the past better than income since the pleasures of past consumption may be forgotten. It is only saving from past income that is now reflected in one's wealth" (Soltow, 1975, p.69).

Soltow did, in fact, observe a linear relationship between estate values and age. The parabolic effect of age on property holding was not present when observing average wealth at different ages. "The group average rises strongly from 20-29 to 30-39 and then has its greatest thrust in going from 30-39 to the 40-49 group. The average tapers off but continues to rise rather surprisingly into old age. There is certainly no strong parabolic effect, as can be seen in...the proportion of men with property" (p.70). He also suggested that the stability of the 1850 pattern was "proof that the age patterns were established decades before the 1850 and the concepts of economic betterment must have been pervasive" (Soltow, 1975, pp.74-75).

Economic Growth and the Savings Rate Expectations. Finally, I use the method proposed by Soltow (1975) to analyze savings using wealth annualized at each age. Soltow used the differences in wealth at each age to observe the continuity of savings that continued through old ages.Furthermore, Soltow found the average annual savings rate was about 5 percent. This was obtained by [1] averaging the increase in wealth per age groups 20-69 or 90 percent of the adult male population {(582+804+311+303)/4 =500}, [2] annualizing the average increase per age group or decade {500/10=50}, and [3] dividing the average annual increase in wealth by the average wealth in 1850 {50/1001=.05}. Note that this finding of 5 percent is the average for individuals. Since households possess more wealth than individuals, this rate is expected to much be smaller in the forthcoming empirical analysis. "The difference between in wealth levels from one year to the next gives an index of saving for a year" (pp.71-72).

Classical Characteristic Premium Expectations. *Schooling.* Jacob Mincer (1974) described a direct relationship between schooling and earnings:

"it is equally correct to say that the distribution of earnings is determined by the distribution of accumulated human capital and of rates of return to human capital investment or that the distribution of earnings is determined by the distribution of ability and opportunity. Or, putting it in a causal hierarchy, the distribution of accumulated human capital is a proximate determinant of the distribution of earnings, and is treated that way in this study. In turn, ability and opportunity determine the distribution of human capital. (Mincer 1974, p.138)"

Skill. Classical economic theory suggests workers are paid their additions to production. This produces an expectation of higher wages for higher skilled workers and lower wages for lower skilled workers. Holding constant the intertemporal rate of return to saved wages, holding constant differences in initial wealth, and holding constant the number of working hours (see James Curtis Jr, December 2002), it is reasonable expect higher wealth among higher skilled employees.

Convergence to Equality Expectations. To measure economic inequality and compare differences in economic outcomes, I analyze differences in differences in mean wealth between blacks and whites, and property ownership between blacks and whites. The following ratios measure differences in wealth and differences in property ownership among two comparison groups to obtain comparative returns to classical characteristic choices. Foremost, the **comparative wealth ratio** is

[Equation 1.1] $\left[X, J, T\right]$

where $W_{X\,J\,T}$ is the mean wealth of the members of group J who made investment X at time T.

The comparative wealth ratio ignores differences in wealth levels and measures the return to classical characteristic choices among groups. For instance, the ratio measures the schooling premium for blacks relative to the schooling premium for whites. If the ratio is less than one, then blacks with many years of schooling may have lower levels of wealth relative to whites with proportional years of schooling, and, thus, the returns to schooling among whites outpace the returns to schooling among blacks, in terms of wealth.

Similarly, the **comparative property ownership ratio** is

[Equation 1.2] $\left[J,T\right]$

where ρ_{XJT} is the percentage of the members of group J who own property and made investment X at time T.

The comparative property ownership ratio can be interpreted the same as the comparative wealth ratio. The comparative property ownership ratio measures the impact of classical characteristics on property ownership of group J to the impact of classical characteristics of property ownership of group J'. For instance, the ratio measures the schooling premium of blacks relative to the whites. If the ratio is less than one, then blacks with many years of schooling may own less property relative to whites with proportional years of property, and, thus, the returns to schooling among whites with many years of schooling outpace the returns to schooling among blacks with proportional years of schooling, in terms of property ownership.

Motivations for Multivariate Analysis. To observe of combined effect of laws, demography and economic geography of the economic outcomes of whites and blacks, I employed standard minimization of the sum of squared errors and conducted non-linear multivariate analysis on the logarithmic total wealth of whites and blacks in 1860 and 1870. Previous papers provide theoretical motivation for econometric modeling choices, which are similar to this presentation. Logarithmic wealth is regressed against proxy variables for earnings and savings, proxy variables for initial wealth, and household formation variables. Including slave state-free state residency variables and regional residency variables could lead to multicolinearity, due to possible endogeneity. The directions of the predictions of estimated coefficients, which are statistically significant at a 95 percent level of significance, were summarized in the results section.

II. RESULTS

The Mid 19th Century Skill and Wealth of Whites and Blacks in the United States of America

Table 9a shows that white-collar free black possessed nominal total wealth amounts of $2,278 in 1860--largest among any skill category.

Table 9a. Mid 19th Century Skill and Mean Wealth of Whites and Blacks

	1850				1860				1870			
Type of Wealth	Unskilled	Skilled	W. Collar	Farmers	Unskilled	Skilled	W. Collar	Farmers	Unskilled	Skilled	W. Collar	Farmers
BLACKS												
Real Estate	57	137		725	85	360	1,091	1,015	29	133	1,236	102
Other					79	106	1,187	1,025	25	57	632	128
Total					164	467	2,278	2,040	54	190	1,868	230
Adjusted for Regional Prices												
Real Estate	63	155		802	89	377	1,074	1,042	19	86	795	67
Other					83	115	1,192	1,054	16	37	409	81
Total					172	492	2,266	2,096	35	122	1,204	148
Sample Size	315	100	14	83	917	276	33	191	13489	1211	173	3547
WHITES												
Real Estate	174	583	3,020	1,704	268	857	3,736	2,768	871	1,152	5,150	3,022
Other					196	455	3,451	1,888	381	490	3,590	1,014
Total					464	1,313	7,187	4,656	1,252	1,642	8,740	4,035
Adjusted for Regional Prices												
Real Estate	191	644	3,357	1,900	275	875	3,853	2,893	582	771	3,451	2,053
Other					207	473	3,643	2,051	252	326	2,383	681
Total					481	1,348	7,496	4,944	834	1,097	5,834	2,734
Sample Size	3,534	7,497	2,936	16,468	7,717	11,928	5,517	22,301	15,932	15,184	8,137	26,886
BLACK TO WHITE RATIO												
Real Estate	0.33	0.24		0.43	0.32	0.42	0.29	0.37	0.03	0.12	0.24	0.03
Other					0.40	0.23	0.34	0.54	0.07	0.12	0.18	0.13
Total					0.35	0.36	0.32	0.44	0.04	0.12	0.21	0.06

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Using the 1860 wealth ratios in Tables 9a, total wealth among white-collar free blacks was approximately the same as the total wealth of free black farmers (or $2,040) in 1860. But skilled blacks had twenty percent (or $467) and unskilled free blacks only had ten percent (or $164) of the total wealth held by free black farmers in 1860. Tables 9a through 9c show that the relative total wealth advantage of white-collar free blacks was also observed using real estate and other forms of wealth for measuring differences among occupational skill groups within the free black community in 1860. However, free black farmers held a higher proportion of white wealth and property than free blacks in any other occupations. When ignoring differences in levels, free blacks earned a higher premium to farming than whites. Overall, the agricultural economy forced free black farmers to own some amount of wealth and property that ultimately exceeded the average wealth of most other professions except white-collar workers. But, since farming land was in rural areas, more free blacks could not realize these economic benefits due to *social isolation* and vigorous enforcement of fugitive slave laws that often occurred in these areas21. 21 See note 11. See Appendix G for complete analysis.

The Mid 19th Century Skill and Wealth of Blacks: A Comparison among Black Americans over Time

Wealth differences favored white-collar blacks before and after emancipation. Table 9a shows that white-collar free black possessed nominal total wealth amounts of $2,278 in 1860--largest among any skill category. Using the 1860 wealth ratios in Table 9a, total estate wealth among white-collar free blacks was approximately the same as the real estate wealth of free black farmers ($2,040) in 1860 while skilled blacks had twenty percent ($467) and unskilled free blacks only had ten percent ($164) of the total wealth held by free black farmers in 1860. Tables 9a through 9c shows that the relative total wealth advantage of white-collar free blacks was also observed using real estate and other forms of wealth for measuring differences among occupational skill groups within the free black community in 1860.

As might be expected, however, Table 9b shows that free black farmers held more real estate property than free blacks in other occupational skill groups in 1860.

Table 9b. Mid 19th Century Skill and Mean Property Ownership of Whites and Blacks

	1850				1860				1870			
Type of Property	Unskilled	Skilled	W. Collar	Farmers	Unskilled	Skilled	W. Collar	Farmers	Unskilled	Skilled	W. Collar	Farmers
BLACKS												
Real Estate	0.14	0.25		0.54	0.17	0.28	0.27	0.60	0.04	0.16	0.29	0.14
Other					0.53	0.57	0.70	0.89	0.14	0.23	0.45	0.48
Real Estate or Other					0.55	0.62	0.73	0.91	0.16	0.31	0.51	0.51
Sample Size	315	100	14	83	917	276	33	191	13489	1211	173	3547
WHITES												
Real Estate	0.19	0.40	0.50	0.71	0.24	0.40	0.55	0.78	0.33	0.40	0.54	0.76
Other					0.64	0.74	0.84	0.94	0.48	0.60	0.78	0.89
Real Estate or Other					0.68	0.77	0.87	0.96	0.56	0.67	0.82	0.92
Sample Size	3,534	7,497	2,936	16,468	7,717	11,928	5,517	22,301	15,932	15,184	8,137	26,886
BLACK TO WHITE RATIO												
Real Estate	0.76	0.63		0.76	0.71	0.71	0.50	0.77	0.11	0.41	0.53	0.18
Other					0.82	0.78	0.83	0.95	0.29	0.39	0.57	0.54
Real Estate or Other					0.82	0.80	0.84	0.95	0.28	0.46	0.63	0.55

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Table 9b shows that unskilled free blacks held approximately 30 percent of real estate property held by free black farmers (per hundred free black framers and unskilled workers). Skilled and white-collar workers held 50 percent of the real estate property held by free black farmers (per hundred free blacks framers, skilled workers and white-collar workers). Table 9b shows that the relative real estate wealth advantage of free black farmers was also observed using other forms of wealth and total wealth for measuring differences among occupational skill groups within the free black community in 1860.

By 1870, white-collar free blacks made significant advances relative other free blacks with other occupational skills. Table 8f shows that white-collar free black possessed nominal real estate wealth amounts of $1236 in 1870--largest among any skill category. Using the 1870 wealth ratios in Table 9c, real estate wealth among white-collar free blacks was significantly greater than the real estate wealth of free black farmers ($102) in 1870. Additionally, skilled blacks held 130 percent ($133) while unskilled free blacks only had thirty percent ($29) of the real estate wealth held by free black farmers in 1860. Table 9c shows that the relative real estate wealth advantage of white-collar blacks was also observed using other forms of wealth and total wealth for measuring differences among occupational skill groups within the ex-slave community in 1870. Similarly, white-collar blacks often held more real estate property than blacks in other occupational skill groups in 1870. Table 9c

shows that the ratio of unskilled blacks to black farmers who held real estate property was 0.3 (per hundred black farmers and unskilled workers).

Table 9c. Mid 19th Century Comparative Wealth Ratios and Comparative Property Ownership Ratios of Whites and Blacks, Based on Skill

	All Blacks			Whites			*Black-White Ratio*		
	1850	1860	1870	1850	1860	1870	*1850*	*1860*	*1870*
i) Unskilled/Farmer Mean Wealth Ratio									
Real Estate	0.1	0.1	0.3	0.1	0.1	0.3	*0.8*	*0.9*	*1.0*
Other		0.1	0.2		0.1	0.4		*0.8*	*0.5*
Total		0.1	0.2		0.1	0.3		*0.8*	*0.8*
ii) Skilled/Farmer Mean Wealth Ratio									
Real Estate	0.2	0.4	1.3	0.3	0.3	0.4	*0.6*	*1.2*	*3.4*
Other		0.1	0.5		0.2	0.5		*0.5*	*0.9*
Total		0.2	0.8		0.3	0.4		*0.9*	*2.1*
iii) White-Collar/Farmer Mean Wealth Ratio									
Real Estate		1.0	11.9	1.8	1.3	1.7		*0.8*	*7.1*
Other		1.1	5.0		1.8	3.5		*0.6*	*1.4*
Total		1.1	8.1		1.5	2.1		*0.7*	*3.8*
iv) Unskilled/Farmer Mean Property-Holding Ratio									
Real Estate	0.3	0.3	0.3	0.3	0.3	0.4	*1.0*	*0.9*	*0.6*
Other		0.6	0.3		0.7	0.5		*0.9*	*0.5*
Total		0.6	0.3		0.7	0.6		*0.9*	*0.5*
v) Skilled/Farmer Mean Property-Holding Ratio									
Real Estate	0.5	0.5	1.2	0.6	0.5	0.5	*0.8*	*0.9*	*2.2*
Other		0.6	0.5		0.8	0.7		*0.8*	*0.7*
Total		0.7	0.6		0.8	0.7		*0.8*	*0.8*
vi) White-Collar/Farmer Mean Property-Holding Ratio									
Real Estate		0.5	2.1	0.7	0.7	0.7		*0.7*	*2.9*
Other		0.8	0.9		0.9	0.9		*0.9*	*1.1*
Total		0.8	1.0		0.9	0.9		*0.9*	*1.1*

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

However, the ratio of skilled blacks to black farmers who held real estate property was 1.2 (per hundred blacks farmers and skilled workers), and the ratio of white-collar blacks to black farmers who held real estate property was 2.1 (per hundred blacks farmers and white-collar workers). Table 9c shows that the relative real estate wealth advantage of free black farmers was also diluted to approximately that of black farmers using other forms of wealth and total wealth for measuring differences among occupational skill groups within the black community in 1870.

The Mid 19th Century Skill and Wealth: A Comparison of White and Black Americans over Time : A black farmer premium was observed when comparing average wealth of free blacks to average wealth of whites by occupational skill before emancipation. Using wealth means in Table 9a, free black farmers had 37 percent of the average white farmer real estate wealth, 54 percent of the average white farmer other wealth, and 44 percent of the average white farmer total wealth in 1860—approximately equal or higher proportions than any other free black occupation. The free black farmer advantage relative to white farmers was observed when analyzing other

and total measures of wealth. The free black farmer premium was even clearer when observing the ratio of free black to white property holders by occupational skill. The ratio of free black farmer property holders (per hundred free black farmers) to white farmer property holders (per hundred white farmers) was 0.77 for real estate wealth holders, and 0.95 for other and total wealth holders in 1860. Even though white-collar free blacks had nominal advantages it was diminished when comparing their wealth to whites, possibly due to the lack of opportunity to serve white clients and limits to serve lower income free blacks, causing a reduced wealth potential of white-collar free blacks relative to white-collar whites.

By 1870, black white-collar workers had a wealth advantage when observing the ratio of black to white average real estate wealth and property holders. Using wealth means from Table 9a, 1870 white-collar blacks held 24 percent of the real estate wealth, 18 percent of other wealth and 21 percent of total wealth held by white-collar whites. This was larger than the black proportion of white wealth held by unskilled workers, skilled workers and farmers. Similarly, using the percentage of property holders in Table 9b, the ratio of white-collar black property holders (per hundred white-collar blacks) to white-collar white property holders (per hundred white-collar whites) was 0.53 for real estate property holders, and 0.57 for other property holders and 0.63 for total property holders in 1860.

Using the *comparative wealth ratio* for real estate wealth, we can ignore the absolute differences in black and white real estate wealth and ascertain the occupational skill advantages in the presence of wealth constraints. In 1860, since the ratio in Table 9c was less than one when comparing unskilled, skilled and white and white-collar workers to farmers, for all measures of wealth, whites had a higher return to unskilled, skilled and white-collar occupations relative to farming than blacks. By 1870, since the ratio was near equal or greater than one for all measures of wealth, black skilled and white-collar workers had a higher to farming than whites. Similar results were obtained using the *comparative property ownership ratio* for real estate property in Table 9b. In 1860, since the ratio was less than one when comparing unskilled, skilled and white-collar workers to farmers, for all measures of property holding, whites had a higher return to these occupations relative to farming than blacks. By 1870, since the ratio was greater than one for all measures of wealth, black white-collar workers had a higher to farming than whites.

As the mode of production in the United States of America evolved away from overt slavery, the question many economists still seek an answer to is: how to grow the economy, in a manner that stabilizes sovereignty and seemingly comparative advantage in social standards, for the maximum amount of time, with minimum exploitation of labor. The answer is hypothetically in the technology sector, although I speculate that the questionable security of complex, minimally-investigated, modern technology, with language comprehension restricted to a sub-set of skilled programmers, has bolstered 21st century investments in security labor among firms, governments and citizenry.

Non-Linear Least Squares Multivariate Analysis of Logarithmic Total Wealth of Whites and Blacks in 1860 and 1870 : Logarithmic wealth is regressed against proxy variables for earnings and savings, proxy variables for initial wealth, and household formation variables. Results, which had a 95 percent level of significance, are summarized below.

Savings, Schooling and Skill. *Savings*. Results show higher, statistically significant, diminishing increases in wealth savings with age among whites, compared to blacks, in 1860 and 1870. *Schooling*. Similarly, results show higher returns to schooling, for whites relative to blacks, in 1860 and 1870, holding all other variables constant; however, these results were not statistically significant for free blacks in 1860. *Skill*. Farmers had statistically significant higher levels of wealth relative to other professions in 1860 and 1870, with the exceptions of white student-retirees in 1870 and black white-collar professionals in 1870.

III. CONCLUSIONS

Free black constraints to generating wealth were observed when analyzing differences in the returns to all of the optimal wealth-generating choices. Changing states and regions, was one of the crucial steps for free blacks to accumulate significant amounts of wealth. Yet entrance laws and barriers, in the form of bond requirements, prevented free blacks from having a full range of residential and, as a result, economic opportunities. In sum, asymmetrical legal and social constraints, rooted by a contradiction between the dominant interpretation of the Constitution and state laws, led to asymmetrical economic experiences among free blacks and whites during the antebellum period. Furthermore, the intertemporal expectation of converging wealth experiences is severely

dampened, not only by initial wealth deficits in the free black community, but also by intertemporal social and legal constraints on economic choices to overcome these deficits.

REFERENCES

1. Attack, Jeremy and Fred Bateman, "Egalitarianism, Inequality, and Age: The Rural North in 1860," Journal of Economic History, Vol. 41, March 1981, pp.85-93.
2. Becker, Gary S. The Economics of Discrimination, Chicago: Chicago, 1957.
3. Berlin, Ira, Slaves Without Masters: The Free Negro in the Antebellum South, New York: Pantheon, 1974.
4. Birkes, David and Yadolah Dodge, Alternative Methods of Regression, New York: John Wiley, 1993.
5. Bodenhorn, Howard, "The Economic Consequences of Color Among Free Negroes in Rural Antebellum South," working paper, Lafayette College, July 1999.
6. Bodenhorn, Howard, "The Mulatto Advantage: The Biological Consequences of Complexion in Rural Antebellum Virginia," working paper, Lafayette College, June 1999.
7. Buchinsky, Moshe, "Recent Advances in Quantile Regression Models: A Practical Guide for Empirical Research," Journal of Human Resources, Vol. 33, No. 1, 1998.
8. Coelho, Philip R. and James F. Shepherd, "Differences in Regional Prices: The United States, 1851-1880," Journal of Economic History, Vol. 34, Iss. 3, September 1974, pp.551-591.
9. Conley, Dalton, Being Black, Living in the Red: Race Wealth, and Social Policy in America, Berkeley: University of California, 1999.
10. Conley, Timothy and David Galenson, "Quantile Regression Analysis of Censored Wealth Data," Historical Methods, Vol. 27, No. 4, pp. 149-165.
11. Conley, Timothy G., David Galenson and Steven Herscovici, "Economic Opportunity in Urban America: Region, Nativity and Wealth in the Mid-Nineteenth Century," working paper, November 1995.
12. Cramer, Clayton E. Black Demographic Data, 1790-1860: A Sourcebook, Westport: Greenwood, 1997.
13. Curry, Leonard, The Free Black in Urban America, 1800-1850: The Shadow of the Dream, Chicago: Chicago University Press, 1981.
14. Curtis Jr, James Edward, "Long-Run Differences in Wealth: A Microdata Analysis of US White-Black Differences in Wealth Directly after Mass Emancipation of Southern Slaves", Working Paper Number 1701373 (Available at SSRN: http://ssrn.com/abstract=1701373), December 1, 2002.
15. Decanio, Stephen J., "Accumulation and Discrimination in the Post-Bellum South," Exploration in Economic History, Vol. 16, No. 2, April 1979, pp. 182-206.
16. DuBois, W.E.B. The Philadelphia Negro: A Social Study, New York: Schocken, 1899.
17. Easterlin, Richard A. "Regional Income Trends, 1840-1950," American Economic History, New York: McGraw-Hill, 1961, pp.525-547.
18. Easterlin, Richard A. Population, Labor Force, and Long Swings in Economic Growth: The American Experience, New York: NBER, 1968.
19. Eblen, Jack E. "Growth of the Black Population in Ante Bellum America, 1820-1860," Population Studies, Vol. 26, No. 2, July 1972, pp.273-289.
20. Eggert, Gerald, "Two-Steps Forward, a Step and a Half Back: Harrisburg's African American Community in the Nineteenth Century," in African Americans in Pennsylvania: Shifting Historical Perspectives edited by Joe Trooter Jr., Pennsylvania: Pennsylvania State University, pp.220-253.
21. Ferrie, Joseph P. "The Wealth Accumulation of Antebellum European Immigrants to the U.S., 1840-60," Journal of Economic History, Vol. 54, March 1994, No. 1, pp.1-33.
22. Ferrie, Joseph P. "A New Sample of Males Linked from the Public Use Microdata Sample of the 1850 U.S. Federal Census of Population to the U.S. Federal Census Manuscript Schedules," Historical Methods, Vol. 29, No. 4, Fall 1996, pp. 141- 156.
23. Ferrie, Joseph P. Yankeys Now: Immigrants in the Antebellum United States, 1840-1860, New York: Oxford, 1999.
24. Franklin, John H. The Free Negro in North Carolina, 1790-1860, New York: Russell, 1943.
25. Galenson, David W. "Economic Opportunity on the Urban Frontier: Nativity, Work and Wealth in Early Chicago," Journal of Economic History, Vol. 51, September 1991, pp.581-603.
26. Galenson, David W. and Clayne L. Pope, "Economic and Geographic Mobility on the Farming Frontier: Evidence from Appanoose County, Iowa, 1850-1870," Journal of Economic History, Vol. 49, September 1989, pp. 635-655.
27. Greaves, Ida C. The Negro in Canada, Montreal: Packet-Times Press.
28. Greene, Lorenzo J. And Carter G. Woodson, The Negro Wage Earner, Washington: Association for the Study, 1930.

29. Greene, William, Econometric Analysis, New Jersey: Princeton Hall, 1997.
30. Hamburg, Morris, Statistical Analysis for Decision Making, San Diego: Harcourt Brace Jovanvich, 1989.
31. Herscovici, Steven, "Migration and Economic Mobility: Wealth Accumulation and Occupational Change Among Antebellum Migrants and Non-Migrants," working paper, October 1995.
32. Higgs, Robert, "Accumulation of Property by Southern Blacks Before World War I," American Economic Review, Vol. 72, Iss. 2, September 1982, pp.725-737.
33. Hornsby, Anne, "The Accumulation of Wealth by Black Georgians, 1890-1915," Journal of Negro History, Vol.74, Iss. 1, Winter 1989, pp. 11-30.
34. Hurst, Erik, et. al, "The Wealth Dynamics of American Families, 1884-94," Brookings Papers on Economic Activity, Iss. 1, 1998, pp. 267-337.
35. Jackson, Luther Porter, "The Virginia Free Negro Farmer and Property Owner," Journal of Negro History, Vol. 24, Iss. 4, October 1939, pp. 390-439.
36. Juhn, Chinhoi, Kevin M. Murphy, and Brooks Pierce, "Accounting for the Slowdown in Black-White Wage Convergence," in Marvin H. Kosters (ed.), Workers and Their Wages, DC: American Enterprise Institute, 1991.
37. Koenker, Roger and Gilbert Basset, Jr. "Regression Quantiles," Econometrica, Vol. 46, No. 1, January 1978, pp. 33-50.
38. Landon, Fred, "The Negro Migration to Canada after Passing the Fugitive Slave Act," Journal of Negro History, Vol. 5, Iss. 1, January 1920, pp. 22-36.
39. Litwick, Leon F. "The Federal Government and the Free Negro, 1790-1860," Journal of Negro History, Vol. 43, Iss. 4, October 1958, pp. 261-278.
40. Litwick, Leon F. North of Slavery: The Negor in the Free State, 1790-1860, Chicago: University of Chicago, 1961.
41. Magnuson, Diana L. "The Making of a Modern Census: The United States Census of Population, 1790-1940," University of Minnesota (Doctoral Dissertation), 1995.
42. Magnuson, Diana L. "Who and What Determined the Content of the U.S. Population Schedule Over Time," Historical Methods, Vol. 28, No. 1, pp. 11-26.
43. Magnuson, Diana L. and Miriam L. King, "Comparability of the Public Use of Microdata Samples: Enumeration Procedures," Historical Methods, Vol. 28, No. 1, Winter 1995, pp. 27-32.
44. Margo, Robert, "Accumulation of Property by Southern Blacks Before World War I: Comment and Further Evidence," American Economic Review," Vol. 74, Iss. 4, September 1984, pp. 768-774.
45. Margo, Robert, Race and Schooling in the South: 1880-1915, An Economic History, Chicago: University of Chicago Press, 1990.
46. McKee, Jay William, "The Conflict Between State Laws Prohibiting the Entrance of Free Negroes and the Privleges and Immunities Clause of the Federal Constitution in the Period, 1789-1860," The Ohio State University (Doctoral Dissertation), 1934.
47. McPherson, J.H.T. History of Liberia, Baltimore: John Hopkins University Press, 1891.
48. Mechlinger, Louis R. "The Attitude of the Free Negro Toward Colonization," Journal of Negro History, Vol. 1, Iss. 3, June 1916, pp. 276-301.
49. Miller, Kelly, "Enumeration Errors in the Negro Population," Scientific Monthly, Vol. 14, January-June 1922, pp.168-177.
50. Mincer, Jacob, "Investments in Human Capital and Personal Income Distribution," Journal of Political Economy, Vol. 66, August 1958, pp.281-302.
51. Mincer, Jacob, Schooling, Experience, and Earnings. New York: Columbia University, 1974.
52. Pennsylvania Abolition Society, The Present State and Condition of the People of Color of the City of Philadelphia and Adjoining Districts, Philadelphia, 1838.
53. Pope, Clayne L. "Households on the American Frontier: The Distribution of Income and Wealth in Utah, 1850-1900," Markets in History: Economic Studies of the Past, edited by David W. Galenson, Cambridge: Cambridge, 1989.
54. Provine, Dorothy, "The Economic Position of the Free Clacks in the District of Columbia, 1800-1860," Journal of Negro History, Vol. 58, Iss. 1, January 1973, pp.61-1972.
55. Ruggles Steven and Matthew Sobek , "Integrated Public Use Microdata Series: Version 2.0," Minneapolis: Historical Census Projects, University of Minnesota, 1997.
56. Ruggles, Steven and Russell R. Menard, "The Minnesota Historical Census Projects," Historical Methods, Vol. 28, No. 1, Winter 1995, pp. 6-10.
57. Ruggles, Steven, et. al., "General Design of the Integrated Public Use Microdata Series," Historical Methods, Vol. 28, No. 1, Winter 1995, pp. 31-39.

58. Schaefer, Donald F. "A Model of Migration and Wealth Accumulation: Farmers at the Antebellum Southern Frontier," Explorations in Economic History, April 1987, pp.130-157.
59. Shorrocks, A.F. "The Measurement of Mobility," Econometrica, Vol. 46, No. 5, Sept. 1978, pp. 1013-24.
60. Snyder, Donald C. "A Database with Income and Assets of New Retirees by Race and Hispanic Origin," Review of Black Political Economy, Vol. 71, No. 4, Spring 1989, pp.5-25.
61. Society of Friends, Statistical Inquiry into the Condition of the Free People of the City and Districts of Philadelphia, Philadelphia, 1849.
62. Soltow, Lee, "A Century of Personal Wealth Accumulation," in The Economics of Black America edited by Harold G. Vatter and Thomas Palm, New York: Harcourt Brace Jovanovich, 1972, pp. 80-84.
63. Soltow, Lee. Men & Wealth in the United States. New Haven: Yale, 1975.
64. Spriggs, William Edward, "Afro-American Wealth Accumulation, Virginia, 1900-1914," University of Wisconsin at Madison (Ph.D. Dissertation), 1984.
65. Steckel, Richard H. "Census Matching and Migration: A Research Strategy," Historical Methods, Vol. 21, No. 2, Spring 1988, pp. 52-60.
66. Steckel, Richard H. "Poverty and Prosperity: A Longitudinal Study of Wealth Accumulation, 1850-1860," The Review of Economics and Statistics, 1990, pp. 275-285.
67. Steckel, Richard H. "Stature and Standards of Living," Journal of Economic Literature, Vol. 33, 1995, pp.1903-1940.
68. Steckel, Richard H. "The Quality of Census Data for Historical Inquiry: A Research Agenda," Social Science History, Winter 1991, pp.579-599.
69. Steckel, Richard H. and Carolyn Moehling, "Wealth Inequality in Industrializing New England: New Evidence and Tests of Competing Hypothesis," submitted to the Journal of Economic History, January 2000.
70. Steckel, Richard, "Census Manuscript Schedules Matched with Property Tax Lists: A Source of Information on Long-term Trends in Wealth Inequality," Historical Methods, Vol. 27, No. 2, Spring 1994, pp. 71-85.
71. Steckel, Richard, "Household Migration and Rural Settlement in the United States, 1850-1860," Explorations in Economic History, pp. 190-218.
72. Steckel, Richard, "The African American Population of the United States, 1790-1920" in A Population History of North America, January 2000.
73. Thünen, Johann Heinrich von, Isolated State; an English edition of Der isolierte Staat. Translated by Carla M. Wartenberg. Edited with an introduction by Peter Hall, Oxford, New York, Pergamon Press, 1966.
74. US Bureau of the Census, Negro Population, 1790-1915, Washington: Government Printing Office, 1918.
75. US Census Office, The Eighth Census of the United States: 1860, Washington: Government Printing Office, 1864.
76. US Census Office, The Seventh Census of the United States: 1850, Washington: Robert Armstrong, 1853.
77. Weiss, Thomas, "U.S. Labor Force Estimates and Economic Growth, 1800-1860," in American Economic Growth and Standards of Living Before the Civil War edited by Robert E. Gallman and John Wallis, Chicago: University of Chicago, 1992, pp. 19-78.
78. Wikimedia Foundation, Wikipedia: The Free Encyclopedia, Encyclopedia on-line, July 2004.
79. White, Betsey Buttrill, "Empirical Tests of the Life Cycle Hypothesis," American Economic Review, Vol. 68, Iss. 4, September 1978, pp. 547-560.
80. Wilkie, Jane R. "Distribution of the US Population by Race and Urban-Rural Residence, 1790-1860: Reference Tables," Demography, Vol. 13, No. 3, August 1976, pp.139-148.
81. Wilkie, Jane R. "Urbanization and De-urbanization of the Black Population Before the Civil War," Demography, Vol. 13, No. 3, August, 1976, pp.311-328.
82. Wolff, Edward N. "Life-Cycle: A Microdata Analysis," Income and Wealth, Vol. 27, No.1, March 1981, pp. 75-91.
83. Wolff, Edward, "Changing Inequality of Wealth," American Economic Review: Papers and Proceedings of the One Hundred and Fourth Annual Meeting of the American Economic Association, Vol. 82, Iss. 2, May 1992, pp. 552-558.
84. Wolff, Edward, "Recent Trends in the Size Distribution of Household Wealth," Journal of Economic Perspectives, Vol. 12, No. 3, Summer 1998, pp. 131-150.
85. Woodson, Carter G. Free Negro Heads of Families in the Unites in 1830, Washington: Association for the Study of Negro Life and History, 1925.

86. Woodson, Carter G. Free Negro Owners of Slaves in the United States in 1830, New York: Negro Universities, 1924.
87. Woodson, Carter G. The Education of the Negro Prior to 1861, New York: Arno, 1968.
88. Woolfolk, George R. The Free Negro in Texas 1800-1860: A Study of Cultural Compromise, Michigan: University Microfilms International, 1976.
89. Wright, Carroll D. The History and Growth of the United States Census, Washington: Government Printing Office, 1900.
90. Zelinsky, Wilbur, "The Historical Geography of the Negro Population of Latin America," Journal of Negro History, Vol. 34, Iss. 2, April 1949, pp.153-221.
91. Zelinsky, Wilbur, "The Population Geography of the Free Negro in Antebellum America," Population Studies, Vol. 3, Iss. 4, March 1950, pp.386-401. **The Curriculum Vitae of James E Curtis Jr**

The Summary of the Recent Employment of James E Curtis Jr

2003 – 2018	Assistant Director of Operations, Bookkeeper, President, Project Director, Researcher, JECJEF
2001 – 2018	Information Technology Manager and Internet Design Intern, JECJEF
2005 – 2010	Nonprofit Manager/Intern Supervisor, CUM, Washington, DC
1999	Intern, Tax Analyst, Economic Development Division ODOD, Columbus, OH
1998 – 2002	Instructor, universities in Columbus OH, Delaware OH & Denver, CO
1996 – 1997	Economist Assistant, Department of Research and Statistics, FDIC, Washington, DC
1992-1995	Intern/Financial Analyst, INROADS, COMSAT, Bethesda, MD
1991 Summer	Intern/Legal Analyst, Office of Ethics and Civil Rights, GSA, Washington, DC

The Summary of the Recent Entrepreneur Manuscripts of James E Curtis Jr

2013-2019 Corporate Jurisprudence of Education Foundation, JECJEF organizational charts
2012-2019 501(c)3/Tax Exemption, USA, application and approval, JECJEF
2012-2019 Articles of Incorporation, USA and USA DC, application and approval, JECJEF
2003-2019 Potential Business Plan ®, Technical Notes ® to the Potential Business Plan ®
2011-2019 Strategic-Divine Resources ®
2001, 2012-2019 Trade Name, USA DC, USA PG County MD & USA State of MD, application and/or registration approval, Education Foundation
2001, 2012-2019 Trade Name, Better Business Bureau, registration, Education Foundation
1990-2019 Education Foundation, JECJEF

The Summary of the Recent Information Technology Management of James E Curtis Jr

1992-2018 Hardware, computer desktop, Dell, Gateway, Hewlett-Packard, Macintosh, and Sun.
1992-2018 Hardware, computer laptop, ACER, Compaq, Dell, IBM, Leveno, Macintosh.
1992-2018 Hardware, computer storage, 1000 gigabyte storage, floppy disk, RW CD/DVD, USB, Scandisk.
1992-2018 Hardware, multifunction printer, Brother, Canon, Hewlett Packard, Xerox.
1992-2018 Hardware, printer accessories, 11x17 printing, laminators, photo printing.
1992-2018 Software ,accounting and bookkeeping, Microsoft Excel, and QuickBooks.
1992-2018 Software, antivirus, AVG and MacAfee.
1992-2018 Software, data transfer, 1and1, File Zilla, FTP, jZip, Microsoft Explorer, Outlook.
1997-2018 Software, database programming, Gauss, E-views, Microsoft Excel, SAS, SPSS, STATA.
1992-2018 Software, domain, 1and1/jecjef, AT&T, Geocities, Office Live, Netzero, OSU Units, Yahoo!.
1992-2018 Software, email accounts, Comcast, Google, MyWay, Netzero, OSU Units.
1992-2018 Software, email entrepreneur, 1and1/jecjef, AT&T, Geocities, Office Live, Yahoo!.
1992-2018 Software, email management, 1and1/jecjef, Geocities, Office Live, Outlook, Yahoo!.
2001-2018 Software, graphic arts, 123certificate, Cyberlink, Real, Movie Maker, Microsoft Publisher.
2001-2018 Software, internet design, 1and1/jecjef, Geocities, Microsoft Office, Office Live, Yahoo!.
1992-2018 Software, internet search, Chrome, Explorer, FTP, Google, JSTOR, LexisNexis, Netscape.
2001-2018 Software, internet video, 1and1/jecjef, Microsoft Movie Maker, Office Live, Yahoo!, YouTube.
1992-2018 Software, office, Corel WordPerfect, Lotus, Microsoft Office and Microsoft Works, PDF.

Colleges Research Institutions & Universities, Certificates and Degrees of James E Curtis Jr

5th Phase	**Distinctions of James E Curtis Jr, designing a graduate program, institute & university**
2017-12-31	*Honorary Doctorate of Philosophy*, *career award*, Education, Education Foundation
2017-12-31	*Honorary Executive Master of Arts*, *career award*, Education Administration, Education Foundation
2017-12-31	*Honorary Doctorate of Philosophy*, *career award*, Political Science, Education Foundation

2017-12-31 Honorary Doctorate of Philosophy, career award, Sociology, Education Foundation
2017 JECJEF Prize in Charity, career award
2014-04-09 Honorary Doctorate of Laws, career award, Laws, Education Foundation
2014 JECJEF Prize in Advocacy, career award
2013 Founder, The James Edward Curtis Jr Education Foundation/JECJEF University
2012 Founder, Internet Graduate Research Institute, IGRI
2012-12-31 Honorary Doctorate of Philosophy, career award, Interdisciplinary Studies, Education Foundation
2012 JECJEF Prize in Economics, career award

4th Phase **Distinctions of James E Curtis Jr, The Post-Doctoral Studies of James E Curtis Jr**
2011 - 2017 Doctoral Programs, Education, Laws, Political Science, Sociology, Education Foundation
2011 - 2017 Executive Master of Arts Programs, Education Administration, Education Foundation
2011 - 2012 Doctoral Program, Interdisciplinary, Accountancy Economics History Laws, Education Foundation
2003-2010 *Honorary Post-Doctoral Researcher, & sabbatical,* Education Foundation

3rd Phase **Distinctions of James E Curtis Jr, The Ph.D. of James E Curtis Jr**
2003-12-31 *Doctorate of Philosophy,* Ph.D., Economics, Education Foundation
2003 Doctoral Program, Economics, Education Foundation, *transfer courses, exams, defenses, OSU*

2nd Phase **Distinctions of James E Curtis Jr, The Ph.D. Program of James E Curtis Jr**
2002 Doctoral Program, Ph.D. Written Defense, Proxy, Ohio State University/OSU, Columbus, OH
2001 Doctoral Program, Ph.D. Oral Defense, Proxy, OSU, Columbus, OH
2000 Doctoral Program, Ph.D. Oral Proposal, OSU, Columbus, OH
2000 Doctoral Program, Ph.D. Written Proposal, OSU, Columbus, OH
1999 Doctoral Program, Ph.D. Program Exam Pass, Economic History, OSU, Columbus, OH
1999 Doctoral Program, Ph.D. Program Exam Pass, Macro/Monetary Economics, OSU, Columbus, OH
1999 Doctoral Program, Ph.D. Program Exam Pass, Microeconomics, OSU, Columbus, OH
1998 Doctoral Program, Ph.D. Program Exam Pass, Macroeconomics, OSU, Columbus, OH
1997 - 2003 Doctoral Program, Economics, 3.37 GPA, courses, OSU, Columbus, OH
1997 - 1998 Master of Arts Program, *Master of Arts*, Economics, OSU, Columbus, OH

1st Phase **Distinctions of James E Curtis Jr, The Pre-Doctoral Programs of James E Curtis Jr**
1997-Summer Pre-Doctoral Program, Economics, American Economic Association/Univ. of Texas, Austin, TX
1996-Autumn Pre-Doctoral Program, Mathematics for Economists, Univ. of Maryland, College Park, MD
1995 International Studies, parliamentary government of Israel and Tel Aviv University, Israel
1994-Summer Certificate, Management, Harvard School of Business/INROADS, Boston, MA
1991 – 1996 *Bachelor Degree*, Economics & *Bachelor Degree*, Political Science, Howard /transfer from Rutgers

1990-2019 Founder Owner President, Education Foundation
1990-Summer Pre-Undergraduate Program, Mathematics, UDC, Washington, DC
1989 – 1991 Pre-Undergraduate Program Degree, *Diploma*, Calvin Coolidge/transfer from Garfield