



**The Great Divide:
A Comparison of Kentucky and Ohio
Counties Along the Ohio River
(1840-1860)**

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“The banks of the Ohio River,” wrote Alexis de Tocqueville in 1831, “provided the final demonstration...[that] time and again, in general, the colony that had no slaves was more populous and prosperous than the one where slavery was in force.” Tocqueville described Kentucky as being a place where “society has gone to sleep...[where] it is nature that seems active and alive, whereas man is idle.” The neighboring state Ohio, on the other hand, “on all sides [has] evidence of comfort; man appears rich and contented; he works.” (Tocqueville, 1835)

Tocqueville’s observations seek to answer an intriguing question: could slavery create two distinct levels of economic prosperity in two nearly identical areas? Many historians say no. Economists have recognized economic gains of slave labor for many years. Edward Gibbon Wakefield, quoted by Marx in his critique of capital formation, argued that slavery was efficient since workers stayed employed:

The labour of slaves combined, is more productive than the much divided labour of freeman. The labour of freemen is more productive than that of slaves, only when it comes to be combined by means of greater dearness of land and the system of hiring for wages.

(qtd. in Davis, 1984)

Some anti-slavery writers at the time of the Civil War, such as John Elliot Cairnes, even conceded that slavery offered “the most complete organization” of a large labor force (Cairnes, qtd. in Davis 1984). More recently, Edward Pessen along with Robert Fogel and Stanley Engerman place the South’s economic growth on par with the North’s.¹ Differences between the two regions, argue Fogel and Engerman, largely reflect the South’s comparative advantage in agriculture, and the North’s in manufacturing (Fogel, 1974). The South’s advantage in agriculture can be partially derived, they maintain, from the use of slave labor, which allowed efficient use of gang labor methods on large cotton

plantations (Fogel, 1974). David Brion Davis goes so far as to call perceived differences between antebellum Kentucky and Ohio “myths” (Davis, 1999). He says Tocqueville’s accounts were distorted by wishful thinking, because Joel Poinsett, Josiah Quincy, John Quincy Adams, and Joseph Story all “prepared” Tocqueville to see a contrast (Davis, 1984). Dismissing Tocqueville’s observations, Davis concludes, “Northern Kentucky [cannot] give us insight into the extraordinary economic growth of the antebellum South” (Davis, 1999).

This paper operates under an opposite assumption and, instead, argues that the Kentucky-Ohio border is an ideal test case for the null hypothesis that the institution of slavery per se had no significant economic effects. Kentucky and Ohio counties tracing the Ohio River are composed of the same soil and face similar weather conditions (Blanford, 2001; Barnhisel, 2001; Foster, 2001). Both regions likewise claim the same geographical access to outside markets. Tocqueville himself pointed to the remarkable similarity in land and climate between the two states: “On both banks of the Ohio stretched undulating ground with soil continually offering the cultivator inexhaustible treasures; on both banks the air is equally healthy and the climate temperate; they both form the frontier of a vast state” (1835). It is reasonable to presume, therefore, that the variation in results derives from factors internal to the societies themselves.

This analysis will use a variety of indicators of economic activity to see if the conception of North-South parity held true for antebellum Kentucky and Ohio counties bordering the Ohio River. Variables will then be evaluated to determine the dimensions of similarities and differences. Just as it would be a mistake to accept Tocqueville’s

descriptions on his word alone, it would also be a mistake to discard his arguments without quantitative reason.

I. METHODOLOGY

The scope of this analysis is limited to counties in order to confine the study to the area that Tocqueville observed and maintain geographic comparability as closely as possible. Limitations of census records prior to the 1840 census largely restrict the comparison to the two decades preceding the Civil War.² Counties included in the analysis are those with at least fifty percent of their territory within 25 miles of the Ohio River. Fifteen counties are studied: Boone, Boyd³, Bracken, Campbell, Greenup, Kenton, Lewis, Mason, and Pendleton in Kentucky; Adams, Brown, Clermont, Hamilton, Lawrence, and Scioto in Ohio. Data labeled by state compare only the two bank regions, i.e. the regions defined by the counties listed above, to one another.

Aggregate data is normalized in order to compare the two regions. Several modern economists, including Fogel and Engerman, have relied heavily on per capita measurements to compare the two regions, but Edward Pessen points out the pitfall of doing so:

To argue, however, as several historians have, that a substantial Southern lag—whether in railroad mileage or urban growth—is not as great when it is measured in per capita rather than absolute terms explains away rather than explains fundamental sectional differences. For it can reasonably be maintained that the antebellum South's comparatively small white population (which accounted for its high per capita rates) was not due to historical accident but to significant features, if not failings, of Southern civilization.

(1980)

Relative dispersions in free populations could have created significant sectional distinctions in economy, social structure, or concentrations of power (Alexander, AHR Forum, 1980). So to avoid any such oversight this paper will normalize by both population and land area. Each base provides a different dimension to measuring regional growth. Quantifying by land area, Tocqueville's method emphasizes how well resources available are used; a per capita measurement, the standard for most modern economists, underscores both average individual wealth and the density of community development. This analysis, as it employs both measures, will show how slavery impacted the Kentucky region's land as well as its people.

II. EVIDENCE

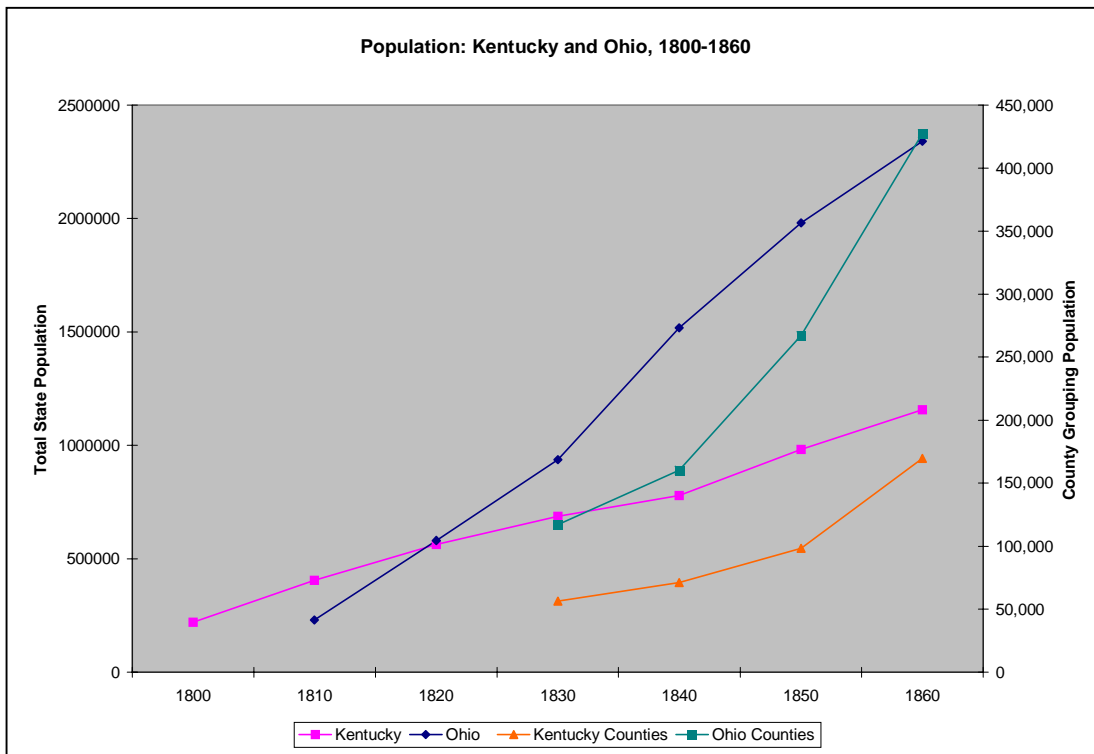
Census numbers indicate that there were significant internal differences between the two regions. Population growth and density of Kentucky counties bordering the Ohio River fell behind adjacent Ohio counties. Cities and schools were much more common in Ohio. Improved land, value of land, amounts of money invested in land all were less in Kentucky. Manufacturing took off in Cincinnati but moved slower in rural areas.

A. Population

Ohio, though founded 11 years after Kentucky, quickly surpassed Kentucky in population size. In 1830, Ohio population was 25 percent larger, and the gap continued to widen. Over the years 1830-1860, the number of people in the Ohio counties grew by 197 percent, from 117,038 to 347,357 people. Kentucky counties, at 56,619 people in 1830 and 123,459 people in 1860, showed a slower growth rate at 118 percent. Ohio's population growth rate peaked in the 1840-1850 decade at 67 percent, a rate 29

percentage points higher than Kentucky, but, as Figure 1 indicates, differences in the size of their populations continued to become more and more pronounced through all years leading up to the Civil War. The evidence supports Tocqueville’s assessment that “land cultivated by slaves is less populous than that cultivated by free labor” (1835).

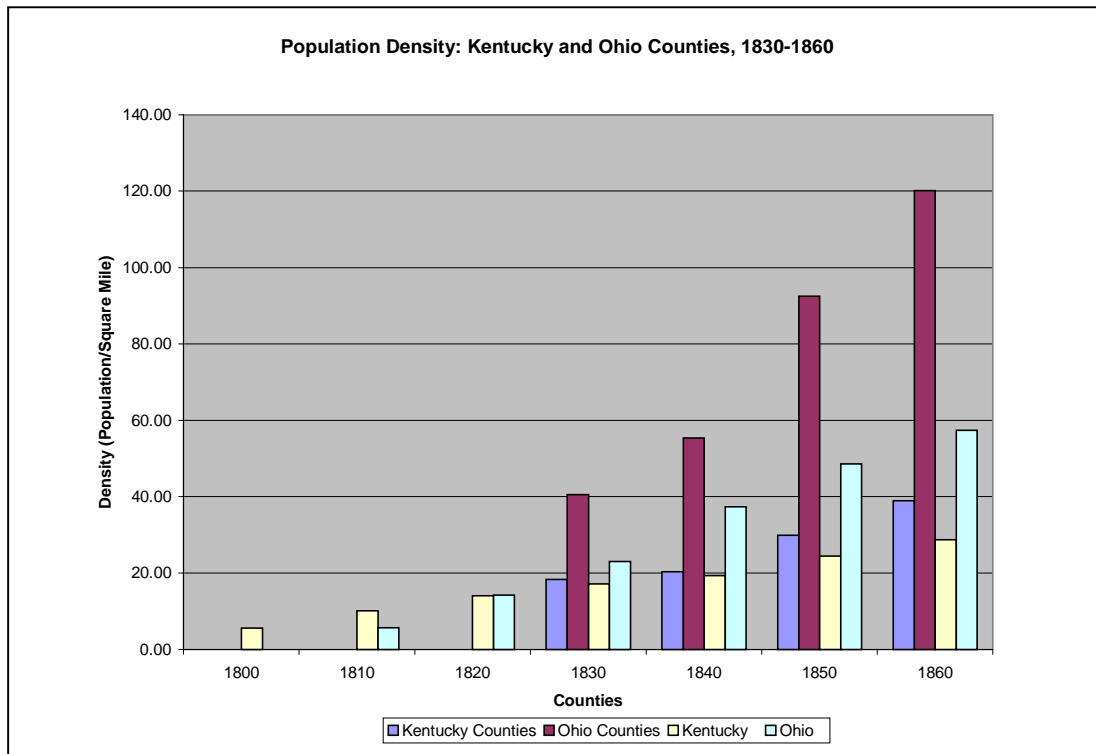
Figure 1:



The Ohio counties were also larger in population density, first doubling then tripling Kentucky’s density in the antebellum period. Figure 2 shows that Ohio, from the years 1830 to 1860, tripled its own population size, increasing from 40.5 to 120.16 people per square mile.⁴ This growth can be partly attributed to the population explosion of Cincinnati in Hamilton County. The Ohio counties’ population density, without Hamilton, exhibited slower and steadier growth and increased approximately 10 percentage points each decade from 1830 to 1860, from 25.99 to 52.55 people per square

mile. But, even with Hamilton excluded, Ohio population density remained greater than that of Kentucky through the pre-war years. After virtually no growth between 1830 and 1840, Kentucky population density increased by approximately 10 percentage points each year to reach 38.97 people per square mile in 1860.

Figure 2:



B. Towns

The published antebellum census records provide little useful information on cities during that time, but statistics on antebellum growth were reported at later dates. Censuses before 1870 used a definition of urban areas so variable as to render it meaningless. As explained by the Census Bureau, the omission of quantified urban growth is one of the greatest failings of the antebellum censuses:

The Census does not furnish material for separating the urban and rural population of the United States.... Such a table to each of the States would

be very valuable, and it is much to be regretted that it can be deduced from none of the census publications. So imperfect is the Census of 1850 in this respect that hundreds of important towns and cities in all parts of the country, and especially in the South and West, are not even distinguished on the returns from the body of the counties in which they are situated, and therefore their population cannot be ascertained at all.... But what is of more importance and the greatest cause of embarrassment is the fact that in New England and the Northern States, what are returned as cities, and towns, often include whole rural districts. If the information in regard to town and city population is ever to be correctly ascertained, there must be explicit instructions to separate upon the returns.... It would not be difficult to frame suitable instructions upon this point.

(Census of 1850: Statistical View)

Fortunately the 1870 census not only framed suitable urban instructions; it applied them retroactively. In 1870 a marginal column started being used to mark townships: with one indentation, cities; and two indentions, incorporated villages and villages, whose names were placed under and their population included in the township in which they were situated. Statistics were listed for 1870 as well as 1850 and 1860. The following analysis used the villages and cities as urban indicators.

Table 1:

		NUMBER OF TOWNS			TOWN POPULATION		
		1870	1860	1850	1870	1860	1850
KENTUCKY	Boone	5		3	1232	0	0
	Boyd	2			2478	0	
	Bracken	6	3	2	1923	1125	713
	Campbell	2	1	1	15468	10046	5895
	Carter	1			152	0	0
	Greenup	1			507	0	0
	Kenton	2	2	2	24639	16660	9590
	Lewis	2			741	0	0
	Mason	8	4	2	6295	4576	4256
	Pendleton	1	1		614	306	0
OHIO	Adams	10	2	4	2951	535	996
	Brown	17	15	16	6903	7059	5769
	Clermont	25	15	4	10044	6543	1035
	Hamilton	12	4	5	224412	175307	116843
	Lawrence	1	1	0	5686	3691	0
	Scioto	4	1	1	11630	7168	4011
KENTUCKY COUNTIES		30	11	10	54049	32713	20454
OHIO COUNTIES		69	38	30	261626	200303	128654
OHIO COUNTIES (W/OUT HAMILTON)		57	34	25	37214	24996	11811

Evidence from the 1870 census clearly shows that Ohio residents were much more likely to live in cities or towns than their Kentucky counterparts. By 1860 a person living in Ohio was more likely to live in a town than not, with 57.68 percent of its free population in towns (up from 48.15 percent in 1850). The figure is much lower for Kentucky: 24.78 of its free population in towns in 1850, 29.13 percent in 1860. Moreover there were more options for Ohio residents wanting to live in a more urban area. Ohio, with 30 towns in 1850, had three times as many towns as Kentucky, and in 1860, the margin widened with Ohio at 38 towns and Kentucky at just 11. The number of Ohio residents in towns rose from 128,654 in 1850 to 200,303 in 1860; Kentucky residents living in towns numbered just 20,454 in 1850 and 32,713 in 1860.

Differences between Ohio and Kentucky, however, are magnified by the presence of Cincinnati. If Hamilton County is omitted from the Ohio total, antebellum Kentucky appears to have had more residents in urban areas than Ohio. Kentucky, when Hamilton is excluded, boasted approximately eight thousand more people in towns than Ohio in 1860 or 1850. Similarly, without Hamilton, Kentucky, in 1840 and 1850, had 10 percentage points more of its free population in towns than Ohio. Only 10.7 percent and 19.1 percent of the Ohio free population outside of Hamilton County dwelled in towns in 1850 and 1860 respectively. These resident figures suggest that Kentucky was more urban than first depicted. Ohio still cleared a larger number of towns overall: 15 more towns in 1850, 23 more towns in 1860, and 27 more in 1870. Moreover it would be a mistake to argue the only large city landed on the free side of the river by accident. Apparently the presence of slavery, for reasons discussed later in this paper, discouraged the attraction of people and capital into urban areas.

C. Real Estate

Real estate, including property in towns as well as rural areas, again is significantly influenced by Hamilton County. In 1860 the value of Ohio real estate per capita is \$325.41 without Hamilton, \$411.57 with Hamilton; likewise the value of Ohio real estate per square mile is \$17,100.12 without Hamilton, \$49,453.81 with Hamilton.

Table 2:

REAL ESTATE, 1860			
	TRUE VALUE OF REAL ESTATE	TRUE VALUE OF REAL ESTATE/SQUARE MILE	TRUE VALUE OF REAL ESTATE/TOTAL POPULATION
KENTUCKY COUNTIES			
Boone	\$7,109,197	\$23,697.32	\$634.98
Boyd	\$1,147,240	\$4,588.96	\$189.81
Bracken	\$3,022,548	\$15,112.74	\$274.25
Campbell	\$6,185,340	\$51,544.50	\$295.85
Greenup	\$1,567,076	\$4,123.88	\$178.89
Kenton	\$13,180,305	\$87,868.70	\$517.54
Lewis	\$1,667,165	\$1,736.63	\$199.40
Mason	\$8,585,205	\$26,015.77	\$471.15
Pendleton	\$2,278,541	\$5,696.35	\$218.19
Kentucky Counties	\$44,742,617	\$11,531.60	\$362.41
OHIO COUNTIES			
Adams	\$6,044,923	\$12,089.85	\$297.65
Brown	\$10,398,138	\$22,123.70	\$347.09
Clermont	\$15,366,462	\$34,923.78	\$465.17
Hamilton	\$100,342,212	\$250,855.53	\$463.67
Lawrence	\$4,413,165	\$10,029.92	\$189.82
Scioto	\$6,356,610	\$9,932.20	\$261.62
Ohio Counties	\$142,921,510	\$49,453.81	\$411.57
Ohio Counties W/out Hamilton	\$42,579,298	\$17,100.12	\$325.41

The comparison between Kentucky and Ohio real estate values is not clear-cut. Kentucky, with a \$11,782.45 true value of real estate per square mile in 1860, offered less valuable land than that across the river, whether or not Hamilton is included. Tocqueville’s observations reinforce the development statistics: “The population of those provinces that had practically no slaves increased in numbers, wealth, and well-being more rapidly than those that had slaves.... On the [Ohio] right bank a confused hum proclaims from afar that men are busily at work; fine crops cover the fields; elegant dwellings testify to the taste and industry of the workers” (1835). Only relative to the smatter of Kentucky residents does Kentucky real estate rival that of Ohio. Kentucky—with a per capita \$370.29 true value of real estate in 1860—exhibited a significantly larger true value of real estate per capita than Ohio without Hamilton.

D. Agriculture

Agriculture, despite other indicators available, is the best gauge of economic success for the antebellum period. In 1840 agriculture employed far more workers than any other profession listed in the census, and agriculture dominated economic activity for both states. But not until 1850 did the census record the value of agricultural inputs and outputs. Comparison of agricultural success must be limited to the two decades prior to the Civil War. To a certain extent, however, measures of stock variables serve as a cumulative index of performance for the entire period. Both the 1850 census and the 1860 census measure four important indicators of agricultural development: unimproved and improved farm land, cash value of farms, value of farming implements and machinery, and value of livestock. This paper will examine each in turn.

Table 3:

AGRICULTURE									
		Improved Acreage/Rural Population		Cash Value of Farms/Total Population		Value of Farm Implements and		Value of Livestock/Total Population	
		1850	1860	1850	1860	1850	1860	1850	1860
KENTUCKY	Boone	8.31	8.41	\$360.85	\$570.40	\$8.62	\$10.25	\$43.28	\$67.71
	Boyd		2.53		\$100.96		\$1.42		\$15.73
	Bracken	4.63	6.40	\$121.94	\$226.22	\$5.53	\$7.90	\$21.34	\$49.20
	Campbell	2.06	2.02	\$119.03	\$133.81	\$2.79	\$2.96	\$9.21	\$12.91
	Greenup	3.11	3.78	\$76.71	\$135.92	\$2.55	\$3.94	\$13.11	\$24.80
	Kenton	5.45	5.72	\$142.43	\$102.62	\$2.45	\$3.08	\$9.19	\$14.27
	Lewis	4.81	5.96	\$113.38	\$170.85	\$5.93	\$5.82	\$21.06	\$39.05
	Mason	6.45	9.09	\$261.89	\$329.60	\$6.29	\$7.59	\$27.72	\$57.55
	Pendleton	5.90	5.75	\$147.61	\$187.33	\$6.65	\$5.07	\$26.50	\$46.37
OHIO	Adams	5.55	8.32	\$147.52	\$258.87	\$6.24	\$7.22	\$18.96	\$36.78
	Brown	4.72	7.70	\$189.28	\$289.93	\$6.61	\$6.82	\$18.45	\$36.40
	Clermont	11.01	7.01	\$182.29	\$374.34	\$6.91	\$10.60	\$16.89	\$33.22
	Hamilton	9.54	18.91	\$111.25	\$107.81	\$1.56	\$1.79	\$3.98	\$6.21
	Lawrence	1.36	3.77	\$33.31	\$93.63	\$1.12	\$2.96	\$3.39	\$14.53
	Scioto	3.55	5.24	\$121.51	\$137.79	\$5.39	\$5.88	\$13.35	\$17.02
KENTUCKY COUNTIES		5.04	5.72	\$167.28	\$206.40	\$4.59	\$5.06	\$19.47	\$33.25
OHIO COUNTIES		5.73	7.58	\$126.15	\$158.86	\$3.26	\$3.75	\$8.60	\$14.49
OHIO COUNTIES W/OUT HAMILTON		*	*	\$147.34	\$243.29	\$5.67	\$6.98	\$15.17	\$28.17

*The effect of Hamilton County's urban influence is already removed by the use of rural population statistics.

Ohio farmers were significantly ahead of their Kentucky counterparts in percentage of improved farmland. The 1850 Census reported that Ohio had 1,069,308 total acres of land on farms, of which fifty-three percent was improved. Tocqueville argued the amount of improved land was less in Kentucky: “On the left bank of the river the population is sparse; from time to time one sees a troop of slaves loitering through half-deserted fields; the primeval forest is constantly reappearing” (1835). The census supports his claim. Kentucky farmers in 1850 had improved just forty-three percent of the state’s 925,881 acres of farmland. The amount of total farmland in 1860 had risen to 1,356,004 acres in Ohio, and 1,105,744 acres in Kentucky. Though the numbers show

rising improved farmland in Kentucky, it still fell behind Ohio in 1860, forty-nine percent improved farmland compared to fifty-nine percent farmland respectively.

Kentucky efforts to improve land were not much stronger when normalized by population. When only rural populations⁵ are considered, Kentucky had 5.04 improved acres per resident in 1850, whereas Ohio had 5.72. The gap between the two states widened by 1860: Ohio boasted 7.58 acres of improved land per rural inhabitant while Kentucky had just 5.73. Tocqueville's comments on development proved true.

Value of farmland and buildings also places Ohio before Kentucky. In 1850 an average acre of farmland in Kentucky was priced at \$17.79. That same decade, directly across the river, the average acre of farmland in Ohio fetched \$31.52. Little change ensued over the following ten years. Value of an acre of farmland in Kentucky had increased to just \$23.04 by 1860, still far behind the average Ohio farm acre, which was valued at \$40.68. Value of farmland acreage was 44 percent greater in Ohio in 1850 and 43 percent greater in Ohio in 1860.

Farm value, when framed by population, provides further evidence that farmland development in Ohio was more advanced. Granted, Kentucky land value per person, at \$167.28 and \$206.40 in 1850 and 1860, is greater than that of Ohio, at \$126.15 and \$158.86 respectively. But again the comparison looks very different when Hamilton County is removed from the Ohio total. Ohio per capita farm cash value, without Hamilton, is \$36.89 greater than the Kentucky cash value in 1860.

Value of farm implements and machinery indicate a greater investment in farm capital by Ohio farmers than by Kentucky farmers. The value of farm implements and machinery per acre of farmland in 1850 was \$0.81 in Ohio but only \$0.49 in Kentucky.

In 1860, the Ohio value of farm implements per acre still greatly outdistanced that of Kentucky, \$0.89 in comparison to \$0.49. Per capita value of farm implements and machinery, omitting Hamilton County, further establish Ohio's lead in capita investment. Kentucky farm implements and machinery per person were worth \$4.59 in 1850 and \$5.06 in 1860; Ohio farm implements and machinery per person, excluding Hamilton, were worth \$5.67 in 1850 and \$6.98 in 1860.

Only in terms of livestock—a low-intensity use of land—did Kentucky equal and, by per capita figures, surpass Ohio. In 1860 both states had \$3.71 of livestock value per acre of farmland. (Previously, however, Ohio had preceded Kentucky here too with a \$2.15 value of livestock per acre in 1850, compared to the Kentucky livestock value per acre of \$2.07.) Per capita figures further emphasize Kentucky's lead over Ohio in livestock. Kentucky livestock, valued at \$19.47 and \$33.25 per person in 1850 and 1860 respectively, were both higher than comparative Ohio statistics without Hamilton, \$15.17 in 1850 and \$28.17 in 1860.

E. Manufacturing and Commerce

Cincinnati dominated manufacturing. Hamilton County—in terms of industrial inputs and outputs—surpassed all other Kentucky and Ohio counties combined. That much is clear. Unfortunately, however, it is impossible to get a better picture of the manufacturing landscape, because census data on that topic is incomplete. The 1840 census does a more thorough job of covering commerce than the rest of the antebellum censuses, but in some cases it neglected to separate manufacturing and trade employment numbers. The following analysis, as a result, must rely heavily on the 1850 and 1860 censuses.

Table 4:

MANUFACTURING				
	# OF PERSONS EMPLOYED		ANNUAL VALUE OF PRODUCTS	
KENTUCKY COUNTIES	1850	1860	1850	1860
Boone	78	129	\$132,000	\$438,888
Boyd		150		\$267,450
Bracken	88	30	\$87,060	\$72,350
Campbell	224	249	\$403,815	\$228,920
Greenup	958	273	\$299,992	\$452,602
Kenton	752	1,082	\$866,961	\$1,809,300
Lewis	91	65	\$99,880	\$114,139
Mason	1,280	823	\$1,061,746	\$1,651,621
Pendleton	30	79	\$20,190	\$98,300
Total KY Counties	3,501	2,880	\$2,971,644	\$5,133,570
OHIO COUNTIES				
Adams	118	316	\$132,532	\$695,284
Brown	283	489	\$394,469	\$1,272,577
Clermont	735	683	\$1,012,869	\$1,292,121
Hamilton	15,638	30,268	\$20,790,743	\$46,995,062
Lawrence	1,251	1,047	\$716,288	\$1,160,068
Scioto	1,117	1,396	\$907,858	\$1,998,983
Total OH Counties	19,142	34,199	\$23,954,759	\$53,414,095
W/out Hamilton	3,504	3,931	\$3,164,016	\$6,419,033

Ohio led Kentucky as a manufacturing employer, but that lead was mainly based on Hamilton County. Ohio had significantly more manufacturers per capita, at 7.16 percent in 1850 and 9.85 percent in 1860, than Kentucky, at 3.80 percent in 1850 and 2.39 percent in 1860. Removing Hamilton brings down the percentage of manufacturers to 3.18 percent and 3.00 percent in 1850 and 1860 respectively. Growth in the number of Ohio manufacturing workers, at 78.66 percent (and 12.19 percent without Hamilton) between 1850 and 1860, is a marked contrast to -17.74 percent loss of manufacturing workers in Kentucky. Capital invested in manufacturing was higher in Ohio too: Ohio manufacturers invested \$51.74 capital per person in 1840, \$35.91 in 1850 and \$65.71 in 1860 compared to \$9.49 in 1840, \$21.19 in 1850, and \$26.03 in 1860 in Kentucky. Again

only when Hamilton is removed; placing Ohio figures at \$6.14, \$19.64, and \$29.31 in 1840, 1850, and 1860 respectively; is Kentucky on equal footing with Ohio.

Most product value statistics place Ohio before Kentucky. The only real exception is the category of product value per person employed in manufacturing. This statistic, in 1860, indicates Kentucky performed better than Ohio, at \$1,782 and \$1,562 respectively. But, in when using a wider per capita pool, Ohio was ahead of Kentucky when manufacturing products are normalized by aggregate population: the value of manufacturing products per capita is approximately three times greater in Ohio than in Kentucky in both 1850 and 1860. Hamilton excluded, the difference between per capita product value shrinks to Ohio leading Kentucky by just \$6 in 1960, with Kentucky value \$3 greater than Ohio ten years before. Growth in product value unquestionably was greater in Ohio however. Between 1850 and 1860, Ohio product value rose by 122.98 percent, 102.88 percent with Hamilton excluded, whereas Kentucky grew by 72.75 percent.

Commerce statistics show best that Hamilton County should not be seen as an exceptional case; Cincinnati was a resource to the whole region. In 1840, the census reported that Ohio had 1,352 retail dry goods, grocery, and other stores; 28 lumberyards and trade; and \$4,110, 130 capital invested in commerce. These numbers drop significantly without Hamilton. Ohio then has just 213 stores, 5 lumber yards, and \$2,000 capital invested. Kentucky rivaled Ohio commercially when Hamilton is excluded: Kentucky has 175 stores, 5 lumberyards, and \$12,000 capital invested.

F. Education

To provide a more complete assessment of the economic situation, this paper, like Tocqueville, also looks at educational differences between the two states. Education is an economic variable, because it indicates the willingness to invest in its human capital, in the economic potential of its populations. It would hardly be surprising to find that a slave society “underinvested” in the education of its slaves, but it is not obvious that such underinvestment would extend to the free population as well. Yet underinvestment would certainly be possible. Schools attracted settlers. A lack of schools, therefore, could signal a region’s failure to promote community development.

County education data is available for both 1840 and 1850. The 1840 census addresses primary and common schools, the number of scholars at public charge, and the number of illiterate adults. The 1850 census provides information on public schools, illiterate adults, and the number of students attending school during the year.

Table 5:

NUMBERS IN SCHOOL				
	1840		1850	
	# of Scholars in Primary and Common Schools	# of Scholars/School-Age Free Population	# of Public School Pupils	Pupils/School-Age Free Population
	KENTUCKY COUNTIES			
Boone	65	2.21%	650	18.38%
Bracken	233	8.94%	500	15.55%
Campbell	186	10.51%	725	15.69%
Greenup	225	10.77%	554	15.32%
Kenton	354	12.99%	1,418	24.62%
Lewis	264	10.92%	513	18.51%
Mason	1,006	24.00%	542	10.53%
Pendleton	265	17.03%	380	15.04%
Total KY Counties	2,598	12.80%	5,282	16.93%
OHIO COUNTIES				
Adams	284	5.43%	4,500	58.53%
Brown	1,352	14.86%		0.00%
Clermont	3,289	35.86%	6,913	58.23%
Hamilton	6,544	24.99%	15,949	32.45%
Lawrence	1,640	41.36%	6,203	101.26%
Scioto	1,243	27.63%	1,650	23.33%
Total OH Counties	14,352	24.68%	35,215	37.88%

Ohio youth received more free education than their Kentucky counterparts. In 1840 Kentucky had 12.8 percent of its school-aged free population as a scholar in a primary or common school; the same year Ohio had 24.68 percent of its school-aged free population as a scholar in a primary or common school.⁶ Moreover, of Ohio's school-aged free population, 37.88 percent was a public scholar in 1850, compared to 16.93 percent in Kentucky.⁷

Table 6:

TEACHERS AND SCHOOLS											
	1840			1850							
	# of Primary and Common Schools	School-Age Free Population/# of Schools	Square Miles/# of Schools	# of Public Schools	School-Age Free Population/# of Public Schools	Square Miles/# of Public Schools	# of Public School Teachers	School-Age Free Population/Teachers	Square Miles/Teachers	Pupils/Teachers	
KENTUCKY COUNTIES											
Boone	4	735	75	26	136	12	26	136	12	25	
Bracken	9	289	22	20	161	10	20	161	10	25	
Campbell	8	221	15	21	220	6	25	185	5	29	
Greenup	11	190	35	18	201	21	19	190	20	29	
Kenton	15	182	10	32	180	5	41	140	4	35	
Lewis	10	242	96	24	116	40	24	116	40	21	
Mason	36	116	9	16	322	21	17	303	19	32	
Pendleton	10	156	40	15	168	27	15	168	27	25	
Total KY Counties	103	197	28	172	181	17	187	167	15	28	
OHIO COUNTIES											
Adams	10	523	50	85	90	6	85	90	6	53	
Brown	33	276	14	79	140	6	134	82	4	0	
Clermont	66	139	7	254	47	2	254	47	2	27	
Hamilton	12	2,182	33	144	341	3	259	190	2	62	
Lawrence	56	71	8	71	86	6	71	86	6	87	
Scioto	42	107	15	37	191	17	37	191	17	45	
Total OH Counties	219	266	13	670	139	4	840	111	3	42	

Access to schooling was easier in Ohio than Kentucky. In 1840 there was a school for every 13 square miles in Ohio while in Kentucky there a school for every 28 miles. Both improved access by 1850, but Ohio still led the way with a school for every four square miles, compared to Kentucky with a school for every 17 square miles. The greater concentration of schools is likely a symptom of Ohio's higher population density.⁸

Table 7:

ILLITERATE WHITE POPULATION		
	1840	1850
	Illiterate Whites Over the Age of 20/White Population	Illiterate Whites/ White Population
KENTUCKY COUNTIES		
Boone	5.69%	5.22%
Bracken	7.20%	2.59%
Campbell	1.77%	4.88%
Greenup	7.31%	11.22%
Kenton	9.13%	5.78%
Lewis	0.00%	10.36%
Mason	1.02%	4.72%
Pendleton	2.96%	1.28%
Total KY Counties	4.28%	5.73%
OHIO COUNTIES		
Adams	3.31%	3.22%
Brown	0.53%	5.19%
Clermont	2.41%	8.21%
Hamilton	0.39%	2.06%
Lawrence	17.70%	12.43%
Scioto	12.04%	0.43%
Total OH Counties	2.81%	3.64%

Literacy rates were consistently higher in Ohio than for the free population of Kentucky. 1840 census data reported that the percentage of white persons over the age of twenty that could not read and write in Kentucky was four percent, compared to three percent in Ohio. Better education in the free state is consistent with Tocqueville's commentary: "Hence those whose task it is in Kentucky to exploit the natural wealth of the soil are neither eager nor instructed, for anyone who might possess those qualities either does nothing or crosses over into Ohio so that he can profit by his industry, and do so without shame" (1835).

Even when the typically less-educated "colored" free population was included in literacy statistics, Ohio's free population came out on top. The illiteracy rate for free

people, recorded in 1850, was four percent for Ohio and six percent for Kentucky. Further breakdown by race shows that whites, as well as free colored people, were still more likely to be literate in Ohio than in Kentucky in 1850. In Ohio twenty-one percent of the free colored population and four percent of its white population were illiterate; thirty-six percent of Kentucky's free colored population and six percent of its white population were illiterate. Furthermore, for those that could read, Ohio offered better resources than Kentucky in 1850. None of the Kentucky counties along the Ohio River possessed public libraries. The Ohio counties, however, had 11 public libraries, containing 22,212 volumes in all.

Table 8:

LIBRARIES (1850)		
	# of Libraries	# of Volumes
KENTUCKY COUNTIES		
Boone	0	0
Bracken	0	0
Campbell	0	0
Greenup	0	0
Kenton	0	0
Lewis	0	0
Mason	0	0
Pendleton	0	0
Total KY Counties	0	0
OHIO COUNTIES		
Adams	0	0
Brown	0	0
Clermont	4	735
Hamilton	6	20,777
Lawrence	0	0
Scioto	1	700
Total OH Counties	11	22,212

III. ANALYSIS

Table 9:

SUMMARY STATISTICS									
	KY Counties			OH Counties			OH Counties W/out Hamilton		
	1840	1850	1860	1840	1850	1860	1840	1850	1860
Population Density (people/sq ft)	20.35	29.85	38.97	55.39	92.45	120.16	32.10	44.31	52.55
Farm Value/Acre	*	\$17.26	\$19.13	*	\$31.52	\$40.68	*	\$18.93	\$28.45
Real Estate Value/Sq Mi	*	*	\$11,531.60	*	*	\$49,453.81	*	*	\$17,100.12
Improved Acreage/Total Acreage	*	0.45	0.42	*	0.53	0.59	*	0.51	0.56
# Towns	*	10	11	*	30	38	*	25	34
# Schools**	103	172	*	219	670	*	207	526	*
*Census data is not available for these years.									
**Schools: 1840 statistics represent primary and common schools whereas 1850 statistics represent public schools.									

Tocqueville, though making his speculations from the deck of a steamboat, observed correctly that the society on his left was significantly different from that on his right. Population density was much greater in Ohio than in Kentucky. More farmland was improved in Ohio, and higher values were placed upon real estate and farms in the state. Ohio boasted a significantly larger number of towns and schools. Overall the county census data indicates that investment in community building and land development in Ohio was far ahead of Kentucky—even though the counties studied lay directly across the river from one another.

If slavery is to explain these fundamental differences, then it would seem the peculiar institution controlled a prominent share of Kentucky's population. The census, though, shows otherwise. Slaves comprised just 14% of the Kentucky population in 1840, down to 7% in 1860. So, how could small-scale slavery really make such a big difference between two similar sets of counties? The rest of this paper will seek to answer this question as it examines the distinct features of slavery and their potential impact on county populations, both nonslaveowning and slaveowning alike.

One of the unique characteristics of slaveowning is the geographic mobility of property owners. The value of slaves—unlike land and most forms of industrial capital—was independent of local development. And, indeed, slaveowners took advantage of the ability to relocate. Acquisitive capitalists in the South moved frequently to keep their slaves in the areas of highest fertility, and these lands were less likely to be centered around a town (Wright, 1986). Ulrich Philips elucidated this point when he argued the interstate slave trade “drained capital out of the districts where it had been earned” (Phillips qtd. in Wright, 1986). The Ohio and Kentucky census reports illustrate this phenomenon on a small scale, as Ohio claimed a far greater number of towns than Kentucky. Further supporting evidence for the geographic movement comes from Donald Schaefer, who found that slaveowners typically moved farther than nonslaveholders and mobility rates for small slaveowners were even higher (Schaefer cited in Wright, 1986). “The large share of the southern growth rate due to interregional migration underscores...the extreme flexibility of the slave economy” (Pessen, 1980). In contrast, although the free-state economic area expanded rapidly in the aggregate, individual property owners in the North were far more likely to settle in one place and invest in that community. In the absence of slavery, property owners derived their livelihood from the land or commercial work within a business community, and local economic development raised land values and stretched the size of local markets.

Here we can begin to piece together how slavery might have had such a great influence on Kentucky’s economy. The disconnect between slave value and local development discouraged ties between slaveowners and their land, making land development second to their development of human capital. A slave state was absorbed

into the larger aggregate dynamics of the slave economy. The legal existence of slavery, therefore, could have a magnified effect on Kentucky. (Wright, 1986)

This effect was likely solidified in Kentucky society not by a rigid class structure but in the state's governing political system.⁹ The outline of antebellum North and South state governments were similar: both democratic, both drawing officeholders from similar socioeconomic backgrounds, both facilitating economic pragmatism (including low tax rates), both influenced most by local and state leaders (Pessen, 1980). But the expression of the state leadership was quite different. Both Northern and Southern leaders "were disinclined to disturb their societies' social arrangements" (Pessen, 1980). The North leaders were predominantly commercial leaders whereas the South leaders were typically slaveowning planters. Cairnes argued that slavery made the slaveholders "the sole depositaries of social and political power" (qtd. in Davis, 1984). Consequently Southern laws typically focused on bolstering the value of slaves, while Northern laws focused on increasing the productivity and value of land.

Another distinct feature of slavery, as argued by Tocqueville and others, is the work ethic it encouraged, or discouraged, in free and slave populations. This argument is most convincing as it relates to the work of slaves. According to nineteenth century economist John Elliot Cairnes, slaves, given the very nature of their bondage, feared showing their full work capacity; to do so would mean setting higher expectations for themselves (Davis, 1984). Economic historians, however, have found that slaveowners were very successful in eliciting high levels of work effort from their slaves (Fogel and Engerman, 1974).

The sociological argument really begins to unravel as it discusses whites. Slaveowners, it follows, are lazy, so focused on the condition of their human property that they neglect to fully capitalize on the value of their land. This description of southern whites is a caricature. It is not plausible to argue that an entire class of the population was exogenously afflicted with laziness—especially since most of this class of people had little direct experience with slavery anyway. But we should not stop there.

Instead, consider a more reasonable argument: slave state populations may only have appeared to be lazy, because not much was happening in their counties. They had fewer schools, towns, and jobs outside of agriculture. The Kentucky counties, on the periphery of the slave South, were still subject to the macroeconomic patterns of infrastructure investment observed throughout the South. Land values remained low in the underdeveloped areas, and low-achievers could survive in this niche. The ones left behind in such backwaters may have been distinguished by their backwardness, but there were certainly many active, ambitious, entrepreneurial types elsewhere in the South. Apparent laziness in some of the population members, then, seems more likely an effect of underdevelopment than its cause.

Slavery also distinguished itself in the recruitment patterns it promoted. Because they owned their labor, Southern slaveowners had no need to attract settlers with jobs, homes, or schooling for their children. The presence of bonded workers largely curtailed any movement to bring in free settlers. In fact they would likely want immigrants to stay out of the region. Market forces wielded great power in slave price-setting: “The value of an owner’s slave property was determined not by his individual behavior and local development, but by regional slave markets and world cotton markets, and this value was

essentially uniform in all parts of the slave South at any moment” (Wright, 1978). So, slaveowners would want to keep the supply of free labor down, in order to keep the price of individual slaves up. This incentive helps explain the differences in population available per acre of farmland.

The presence of a slave economy, as Tocqueville pointed out, would likely encourage would-be workers to shy away from slave states anyway. Slave states were the unknown. Publicity of the areas was far less in the South than in the North. And, even if they did know about South developments, free laborers would probably want to avoid a work environment where they would be in competition with unpaid laborers: “On the left bank of the Ohio work is connected with the idea of slavery, but on the right with well-being and progress; on the one side it is degrading but on the other honorable; on the left bank no white laborers are to be found, for they would be afraid of being like the slaves” (Tocqueville, 1835). It’s also likely that foreign settlers would have a harder time adjusting to the South, because the South had fewer towns and cities where ethnic communities developed, where ethnic adjustment was eased. Foreign migration was overwhelmingly to the North (Wright, 1986).

Slavery could also be behind Kentucky’s failure to emphasize the development of human capital through state-run public schools and libraries. Douglass C. North explained that “the dominant planter class...could see little return to them in investment in human capital” (1966). They had little incentive to use education as a means to “develop” areas by attracting people. Residents of free states, on the other hand, saw education as “a capital investment with a high rate of return” (North, 1966). The more equal income distribution provided a broad tax base and consequently broad public education benefits.

Moreover, free state residents were more likely to see education advantages as they moved to take advantage of the new agricultural and industrial opportunities emerging before the Civil War: “The structure of productive activity demonstrated to the western producer the advantages that would accrue from improvements in skills and knowledge” (North, 1966).

Slavery, as it discouraged towns, likewise discouraged manufacturing. Liberal idealists, such as Ralph Waldo Emerson, argued slavery did not love socioeconomic progress:

Slavery is no scholar, no improver; it does not love the whistle of the railroad; it does not love the newspaper, the mail-bag, a college, a book or a preacher who has the absurd whim of saying what he thinks; it does not increase the white population; it does not improve the soil; everything goes to decay.

(Emerson qtd. in Davis, 1984)

This inverse relationship between slavery and industrial growth is supported by data provided above. A focus on investing in slaves rather than land precluded much Southern industrial growth: “Virtually every industrial beginning may be traced to someone’s attempt to make a capital gain on property in land” (Wright, 1986). So, it is because of these different priorities, that the South failed to make a capital gain on land. The result was fewer urban areas, fewer factories, and few factory workers in the South. Urban areas, as shown by the strength of Hamilton County, served as the regional center for manufacturing. Without such a city, the rest of the Ohio counties and those in Kentucky proved that manufacturing potential went largely undeveloped. And, while new immigration did love a factory, the South attracted significantly less German and Irish immigrants than the North, so its pool of potential of manufacturing employees was smaller (Pessen, 1980).

Transportation networks exhibited an inverse relationship with slavery, as here again slavery discouraged recruitment of workers and development of lands.

Table 10:

TRANSPORTATION MILEAGE				
	1830	1840	1850	1860
Kentucky				
Canal Mileage	2	2	2	*
Railroad Mileage	*	32	80	534
Ohio				
Canal Mileage	245	744	792	*
Railroad Mileage	*	39	590	2946
* Data is not available for these years.				

Kentucky canals covered less than five miles through 1860, while those in Ohio numbered in the hundreds. Southern railroads, often sponsored by state government, made for an uncoordinated and incomplete network. Wealthy Southerners would not profit greatly from developing lines: their wealth typically depended on their slaves' value, and a Southern railroad network would not have many towns to service (Majewski, 1996). Local investors and capricious legislators instead had to shoulder the building of most Southern lines (Majewski, 1996). Ohio in 1860 had more than five times the railroad mileage of Kentucky (Alvarez, 1974).

Attracting railroad investors—and settlers who would ride their railroads—was not the problem for the North that it was in the South. The North was aided by greater per capita income (Majewski, 1996). Railroads there could carry more traffic, producing a profit for investors who could not capture local, indirect benefits. Anticipatory settlement, by investors such as land speculators and town merchants, drove the building of Northern railroad lines (Wright, 1986).

“So the traveler who lets the current carry him down the Ohio till it joins the Mississippi sails, so to say, between freedom and slavery; and he has only to glance around him to see instantly which is best for mankind,” proclaimed Alexis de Tocqueville (1835). The censuses confirm this contrast was apparent. So small an institution was slavery in Kentucky, but so great was its results. Counties, facing each other across the Ohio River, showed dramatic differences, not attributable to weather or soil—but to slavery. But, unlike Tocqueville, we should not be so quick to classify one riverbank’s development as progress and the other’s as backwardness. The primary contrast between the two regions is found in population growth and density, and the forms of wealth that were associated with these differences. For those who owned slaves, slave wealth largely made up for any variation—cities, railroads, and even schools seemed largely irrelevant. The economic development of the slave South was quite rational. Only now, in the long run, do we see regional progress *as we know it* was dependent on the very trends in technology, transportation, immigration, towns and cities, and education that distinguished the two regions from each other.

FOOTNOTES

¹ Fogel asserts that the South, as well as the North, was quite rich by antebellum standards, and Pessen emphasizes that North/South similarities in economic success were mirrored by comparable sociopolitical structures.

² The reader may infer that not all censuses had county numbers available on the given topic when only certain decades are discussed.

³ Boyd County, taken from Carter and Greenup County land, did not exist during the 1840 or the 1850 censuses, so study of it will be limited to the 1860 census. Boyd is included in all 1860 Kentucky totals. Carter, however, has been excluded from the study. Carter's boundary changes over the years 1840-1870 would make aggregate totals and acreage counts problematic. My results do not depend critically on this decision. Failure to omit Carter would be more troublesome, because it is a poor county even for Kentucky standards. Its inclusion would bias results.

⁴ County square mile references are based on figures for 1880, because the census did not report area before that date.

⁵ Rural populations consist of all people not living in cities or towns with more than 2,500 residents.

⁶ Due to constraints of census records, the 1840 school-aged free population numbers used here are comprised of white males and females, between age 5 and 20, and free colored males and females, under age 24.

⁷ Changes in how age groups are recorded means that the 1850 school-aged free population comprises all free colored and white males and females between ages 5 to 20.

⁸ In 1850 there was a primary or common school for every 197 school-aged people in Kentucky, versus one for every 266 school-aged free people in Ohio. The size in schools translated to average size of classrooms: in 1850 Ohio had one public school teacher for every 42 pupils; Kentucky had a teacher for every 28.

⁹ One notable exception to the many differences between the slave and free states societies is social structure of whites. Many historians also argue that the antebellum social structure of free populations was generally the same above and below the Mason-Dixon Line. Wealth was distributed—or maldistributed—similarly in the North and South. Both had wealth distributed more equally in rural areas than urban areas (Pessen, 1980). Differences among free populations are only visible at closer inspection: the North had more uneven wealth distribution in urban areas than the South, and the South had more uneven wealth distribution in agricultural areas than the North (Fogel 1974). Rates of vertical mobility also appear to be alike in both regions (Pessen, 1980).

BIBLIOGRAPHY

- AHR Forum.** 1980. "Antebellum North and South in Comparative Perspective: A Discussion." *American Historical Review* 85(5): 1150-1166.
- Alvarez, Eugene.** 1974. *Travel on the Southern Antebellum Railroads, 1828-1860.* University, Alabama: The University of Alabama Press.
- Barnhisel, Richard.** University of Kentucky Prof. of Agronomy and Geology. Personal Interview. 10 Jan. 2001.
- Blanford, Steve J.** U.S. Dept. of Agriculture Natural Resources Conservation Service Soil Scientist. Personal Interview. 10 Jan. 2001.
- Davis, David Brion.** 1999. Letter. "The Big Business of Slavery." *The New York Review of Books* (Apr 8): 77.
- , 1984. *Slavery and Human Progress.* New York: Oxford University Press.
- Fogel, Robert William and Stanley L. Engerman.** 1974. *Time on the Cross.* Boston: Little, Brown and Company.
- Foster, Stuart.** Kentucky State Climatologist. Personal Interview. 10 Jan. 2001.
- Majewski, John.** 1996. "Who Financed the Transportation Revolution? Regional Divergence and Internal Improvements in Antebellum Pennsylvania and Virginia." *The Journal of Economic History* 56(4): 763-688.
- North, Douglass C.** 1996. *The Economic Growth of the United States 1790-1860.* New York: W.W. Norton & Company Inc.
- Pessen, Edward.** 1980. "How Different from Each Other Were the Antebellum North and South?" *American Historical Review* 85(5): 1119-1149.
- Tocqueville, Alexis de.** 1835. *Democracy in America.* Ed. J.P. Mayer. Trans. George Lawrence. San Francisco: Harper and Row Publishers, 1969.
- United States. Census Bureau.** 1811. Aggregate Amount of Persons within the United States in the Year 1810. Washington.
- United States. Census Bureau.** 1864. *Agriculture of the United States in 1860.* Washington: Government Printing Office.
- United States. Census Bureau.** 1821. *Census for 1820: Fourth Census Book 1.* Washington: Gales and Seaton.

United States. Census Bureau. 1832. *Fifth Census: Or, Enumeration of the Inhabitants of the United States, as Corrected at the Department of State, 1830.* Washington: Duff Green, Printer.

United States. Census Bureau. 1864. *Population of the United States in 1860.* Washington: Government Printing Office.

United States. Census Bureau. 1801. *Second Census of the United States.* Washington: Duane, Printer.

United States. Census Bureau. 1853. *The Seventh Census of the United States: 1850.* Washington, Robert Armstrong.

Wright, Gavin. 1986. *Old South, New South.* New York: Basic Books.

-----, 1978. *The Political Economy of the Cotton South.* New York: W.W. Norton & Company, Inc.

“1840 County Level Census Data.” 24 March 1998: *United States Historical Census Data Browser.* Online. Netscape Navigator 3.03. 25 Nov. 1998.

“1850 County Level Census Data.” 24 March 1998: *United States Historical Census Data Browser.* Online. Netscape Navigator 3.03. 25 Nov. 1998.

“1860 County Level Census Data.” 24 March 1998: *United States Historical Census Data Browser.* Online. Netscape Navigator 3.03. 25 Nov. 1998.