Volume Title: Wages and Labor Markets in the United States, 1820-1860

Volume Author/Editor: Robert A. Margo

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-50507-3

Volume URL: http://www.nber.org/books/marg00-1

Publication Date: January 2000

Chapter Title: Geographic Aspects of Labor Market Integration before the Civil War

Chapter Author: Robert A. Margo

Chapter URL: http://www.nber.org/chapters/c11513

Chapter pages in book: (p. 95 - 118)

5 Geographic Aspects of Labor Market Integration before the Civil War

Chapter 4 examined wage gaps between farm and nonfarm labor before the Civil War, a sectoral aspect of labor market integration. This chapter continues the analysis of integration by focusing on geographic wage differentials. Most of the chapter addresses the evolution of regional differences in real wages—for example, whether real wages were initially higher in the Midwest than in the Northeast, whether the gap narrowed over time, and why. Regional wage evolutions have been examined intensively for the post–Civil War period; much less attention, however, has been paid to the antebellum period.

In addition to regional evolution, I also examine patterns of wage convergence at the level of local labor markets—here proxied by counties—using the eight-state sample from the 1850 and 1860 Censuses of Social Statistics. By *wage convergence,* I mean a tendency for high– (low–) real wage counties in 1850 to experience low– (high–) real wage growth between 1850 and 1860.

5.1 Relative Demand and Supply

Throughout the chapter, the interpretation of geographic wage patterns is conducted in terms of the (occupation-specific) relative demand and relative supply of labor. The relative demand for labor is

$$L_{it} = f(X_{it}, w/p_{it}),$$

where w/p_{it} is the real wage at location i in year t, f is the demand curve, X is a set of factors that shift the demand curve, and L_{it} is the quantity of labor demanded at location i in year t. By *relative,* I mean comparing

location i to another location or to some geographic aggregate, such as a state or a region.

The presumption is that $\partial f/\partial(w/p) < 0$: the demand for labor slopes downward with respect to the real wage, holding X constant. The downward slope reflects both diminishing returns to fixed factors at the location (e.g., land) and substitution possibilities in production across locations. Factors that may shift the relative demand curve include technical progress that enhances the productivity of labor in specific locations, population growth, output prices, and past and current prices of other inputs that may have implications for the spatial pattern of production.

The relative supply of labor is

$$L_{it} = g(Z_{it}, w/p_{it}),$$

where Z is a set of factors that shift the supply curve. Included in Z are amenities or disamenities that make location i relatively attractive or unattractive and, possibly, past values of w/p (see below).

Equilibrium is achieved when the relative demand for labor equals the relative supply ($f = g \ \forall \ i$). The equilibrium values of w/p and L in any period can be stable, in the sense that they would remain unchanged unless X or Z were to change. Or they may be unstable, in the sense that the differences in w/p across locations are large enough to induce shifts in relative supply or demand.

In particular, differences in real wages across locations may be sufficiently large (and persistent) to make it worthwhile for labor to migrate from low–real wage to high–real wage locations. Thus, if location i were a high–real wage location in period t, the relative supply of labor at location i would increase (shift outward) in period $t + 1$. Conversely, if location i were a low–real wage location in period t, the relative supply of labor would decrease (shift outward) in period $t + 1$. In this manner, the relative supply is said to be more elastic in the long run than in the short run—that is, any given increase in w/p elicits a greater supply response over time than in the short run.

If the relative demand for labor remains unchanged while the relative supply curve is shifting outward, the increase in relative supply would cause real wages at location i to decline relative to other locations. Conversely, a decrease in relative supply—again, assuming that the relative demand for labor remained unchanged—would cause real wages at location i to increase relative to those at other locations. Through the process of adjusting labor supplies by migration, real wages are said to converge across locations.

Shifts in relative demand can also affect shifts in relative wages across locations. For example, suppose that technological progress causes labor to be relatively more productive at location i. The increase in productivity

raises the relative demand for labor at location *i*. In the short run, the increase in relative demand will cause real wages to increase at location *i*, with the magnitude depending on the elasticity of the short-run relative supply curve. In the long run, if labor is mobile across locations, migration will dampen the increase in the real wage by causing the relative supply curve to shift outward. Conversely, a decrease in relative demand will cause real wages to fall in the short run, but the decline will be tempered in the long run by decreases in relative supply through out-migration.

5.2 The Emergence of National Labor Markets

Patterns of real wage convergence across regions speak directly to a central question of American economic history: the emergence of national labor markets. For the most part, the (conventional) story of national labor markets begins after the Civil War (Lebergott 1964; Wright 1986; Rosenbloom 1996). Regional labor markets in the North allegedly became integrated as early as the 1870s or 1880s, as evinced by the absence of economically significant wage differentials between the Midwest and the Northeast (Rosenbloom 1996). Interregional integration was aided by falling interregional transport costs (e.g., the diffusion of railroads), improved information flows (e.g., the telegraph), and falling costs of international transport, which helped integrate Northern labor markets into an Atlantic-based labor market (Wright 1986; Williamson 1995).

The process of regional integration was evidently quite different in the South. According to Gavin Wright (1986, 64), "the defining economic feature of the South prior to World War II was not poor performance or failure" but the "isolation . . . of the southern labor market from national and international flows." The South was left out of the process because of bad timing. After the Civil War, the region was "consumed by the turbulence . . . of Reconstruction" precisely when "mass immigration was becoming an established part of the northern social fabric" (Wright 1986, 74). The "isolation" of Southern labor markets left its imprint in the form of persistently low real wages, particularly in the South Atlantic region, where real wages did not begin to increase appreciably relative to other regions until after World War II (Wright 1986; Rosenbloom 1996).

Finally, labor markets in the West were initially segmented from the rest of the United States by culture, low population densities, and distance. Although the Gold Rush (see chap. 7) led to the earlier than expected settlement of California, only after the closing of the frontier in the 1890s did the Western labor markets join in earnest the process of forming a national market (Rosenbloom 1990).

With the exception of Lebergott (1964; see also Margo 1992, in press), relatively little work has been done on the integration of geographically distinct labor markets before the Civil War.[1] Using state-level data on farm

wages, Lebergott made comparisons of coefficients of variation between paired census dates (e.g., between 1830 and 1850 or 1850 and 1860). The implicit assumption was movement toward the "law of one price" as evinced by a decline in the coefficient of variation. This movement might be slow, Lebergott (1964, 134, 136) observed, because "in a dynamic economy relatively short run changes in production and demand forces can readily overlay any longer-run tendency" toward wage equalization. "Regions with lively, growing demands for labor offer rising wage rates," he noted, citing early industrialization in the Northeast and settlement in the Midwest and South Central states in response to growing demands for wheat and cotton. Despite such demand shifts, there was a tendency toward equalization: all pairwise comparisons before the Civil War show a decline in the coefficient of variation of farm wages. Lebergott (1964, 78–85) also showed (graphically) that population growth at the state level between census dates (e.g., between 1850 and 1860) was positively correlated with the initial level of wages in the state, which he interpreted as the response of in-migrants to cross-state wage differentials (i.e., a labor supply response). Despite these findings, he cautioned against the notion that antebellum labor markets were well integrated. Information on wage differentials between markets was often unavailable (or available with a lag), with the result being "occasional marked differentials in wage rates between markets . . . largely explicable in terms of the simple imperfections in the labor market of the time" (pp. 131–32).

5.2.1 The Westward Movement of Population before the Civil War

The United States underwent a massive redistribution of population from East to West before the Civil War. Although this redistribution can be readily traced from census data, its labor force implications have become fully apparent only with the recent publication of Weiss's (1992) state-level labor force estimates. Panel A of table 5.1 shows the regional distribution of the total labor force for the census years from 1800 to 1860 for the Northeast, Midwest, and South Central and South Atlantic regions. In the case of the Midwest and South Central regions, also shown are their labor force shares within, respectively, the North and the South (in parentheses). The data refer to both men and women and include slaves, but none of the fundamental trends revealed by the data would be substantially altered if the figures referred solely to (free) adult males. Panel B shows the change in logs of the labor force shares for the Midwest and South Central regions, both frontiers at the start of the nineteenth century; thus, for example, in log terms, the Midwest's share of the labor force grew by 0.32 (about 37 percent) from 1820 to 1830.

At the beginning of the nineteenth century, virtually the entire labor force—93 percent of it—lived in the Northeast or South Atlantic regions, both long settled. But, following 1800, a process of westward movement began.

Table 5.1 **The Regional Distribution of the Labor Force, 1800–1860**

	A. Total Labor Force			
	Northeast	Midwest	South Atlantic	South Central
1800	.431	.008	.503	.059
		(.017)		(.116)
1810	.416	.028	.441	.114
		(.063)		(.205)
1820	.398	.070	.381	.152
		(.149)		(.284)
1830	.388	.096	.339	.177
		(.199)		(.344)
1840	.366	.160	.270	.204
		(.304)		(.431)
1850	.352	.192	.232	.211
		(.349)		(.477)
1860	.321	.230	.197	.214
		(.405)		(.521)
	B. Growth Rates			
1800–10		1.253		.659
1810–20		.916		.288
1820–30		.316		.153
1830–40		.511		.142
1840–50		.182		.034
1850–60		.181		.014
	C. Nonfarm Labor Force			
1800	.506	.004	.450	.040
		(.008)		(.082)
1810	.521	.016	.378	.086
		(.030)		(.185)
1820	.514	.053	.324	.106
		(.093)		(.247)
1830	.546	.061	.270	.123
		(.100)		(.313)
1840	.503	.115	.237	.145
		(.186)		(.380)
1850	.531	.163	.170	.136
		(.235)		(.444)
1860	.531	.177	.154	.138
		(.249)		(.473)
	D. Growth Rates			
1800–10		1.386		.765
1810–20		1.198		.209
1820–30		.141		.149
1830–40		.634		.165
1840–50		.349		−.064
1850–60		.082		.015

Source: Computed from Weiss (1992, 37, 51). *Growth rates* are ln(labor force share in year *t*/labor force share in year $t - 10$).

Note: Labor force shares of the Midwest within the North and of the South Central region within the South are given in parentheses.

In the case of the Midwest, its labor force share grew very rapidly between 1800 and 1810, but then growth decelerated for the next two decades. During the 1830s, however, the Midwest experienced a 60 percent increase (= 0.51/0.32) in the growth rate of its labor force share. Growth in the share declined in the 1840s but then stabilized in the 1850s. By 1860, the Midwest claimed 41 percent of the Northern labor force, and, while the share continued to increase after the Civil War, the increases were far smaller than those that took place before 1860.

The South followed a broadly similar east-west pattern early in the nineteenth century. Growth in the South Central region's share of the Southern labor force was rapid between 1800 and 1810 but declined monotonically during the 1810s and 1820s. The growth rate during the 1830s (0.14 in logs) was virtually identical to the growth rate for the 1820s (0.15 in logs). However, measured relative to the Southern labor force, growth in the South Central region's share accelerated in the 1830s. The growth rate declined sharply in the 1840s and continued to remain very low in the 1850s. By 1860, 52 percent of the Southern labor force resided in the South Central region.

Panels C and D repeat the calculations for the nonfarm labor force. The westward movement is still evident: the share of the nonfarm labor force in the Northeast and South Atlantic regions declined from 0.956 in 1800 to 0.669 in 1860. The Midwestern share of the nonfarm labor force increased from 0.004 in 1800 to 0.177 in 1860; the South Central share also increased, although not as dramatically (from 0.040 in 1800 to 0.138 in 1860). Growth in both shares decelerated from 1800 to 1830 but then increased in the 1830s, again consistent with a relative demand shock. However, in contrast to the total labor force, only the South Atlantic share underwent a pronounced decline; the Northeastern share fluctuated between 50 and 53 percent over the period 1800–1860. The jump in the Northeastern share between 1820 and 1830 represents the onset of industrialization in the United States, industrialization being concentrated in the Northeast, whereas the jump in the 1840s reflects the first great wave of European immigration (Goldin and Sokoloff 1982; Ferrie 1999).

5.2.2 Why Go West? Explaining the Geographic Redistribution of the Labor Force

Why should labor have moved west before the Civil War? The simplest answer is that, agriculture being a dominant economic activity, locations in the Midwest and South Central regions were perceived to have economic value, provided that the costs of moving factors of production to both regions did not exceed the benefits. The benefit-cost ratio presumably increased, as well, with improvements in transportation, such as canals and railroads, which lowered the cost of shipping Western goods east (and vice versa), raising economic growth through a process of regional specialization (Taylor 1951; North [1961] 1966).

Movement to the frontier generally followed a due-west direction, partly because this minimized transport costs, but also because human capital in farming tended to be latitude specific (Steckel 1983). For slave labor, migration from South to North was obviously impeded by the Peculiar Institution, but slave owners showed no general reluctance to move their chattel from east to west within the South. Immigrants who arrived in the Northeast tended to avoid further migration to the South but otherwise had no reluctance to move to the Midwest (Ferrie 1999).

The simple answer, however, runs into an empirical puzzle. Estimates of per capita income show substantially *lower* values in the Midwest relative to the Northeast in 1840 and 1860, while, in the South, per capita incomes in the East South Central region were virtually identical to those in the South Atlantic (U.S. Department of Commerce 1975, 242).[2] Economic theory suggests that individuals generally move from low- to high-income locations, not the other way around.

One way around the puzzle is to adjust in some manner—or dispute—the per capita income figures. For example, because the dependency ratio (the ratio of children to economically active adults) was higher in the Midwest than in the Northeast, the regional gap in output per worker was smaller than that in per capita income (Fogel 1989). Easterlin (1960) did not correct his income estimates for regional differences in relative prices. Later in the chapter, I show that the cost of living—or at least a key component of it—was lower in the Midwest than in the Northeast.

Aside from questioning Easterlin's original data, the puzzle can be resolved in various ways. Perhaps migration west was selective in an income sense—that is, individuals who moved west came from the lower half of the Eastern income distribution. This is the so-called safety-valve hypothesis of Frederick Jackson Turner (1920)—the idea that the frontier was a respite for the dispossessed and economically downtrodden. Migrants may have had higher incomes on the frontier than back East, but their incomes on the frontier were lower than those of individuals who did not migrate to the frontier. Although historians have not been kind to the safety-valve doctrine, a recent paper by Ferrie (1997), using sophisticated econometric techniques, finds some evidence of selectivity bias in migration that is consistent with the safety-valve hypothesis.

Another explanation is that migration to the frontier was prompted by the possibility of capital gains.[3] It is well established that precedence had economic value on the frontier—early settlers got the best land and emerged (on average) with greater capital gains than latecomers (Galenson and Pope 1992). The capital gains were especially great in the Midwest in the 1850s, with the widespread coming of the railroad (Craig, Palmquist, and Weiss 1998; Coffman and Gregson 1998).

A third explanation, originally suggested by Coelho and Shepherd (1976; see also Margo, in press), is that the marginal product of labor—the real wage—was initially higher on the frontier than in settled areas of

the East Coast. In terms of the relative demand-supply model of section 5.1, the existence of a real wage gap provided a potential economic gain to migration. Because much migration involved the self-employed (in agriculture), the relevance of wages to migration decisions might be questioned (Coelho and Shepherd 1976). However, Craig (1991; see also Craig and Field-Hendry 1993) has argued that the value of the marginal product of labor in agriculture generally equalized with farm wages in the Midwest, and there is little reason to suspect that conditions were fundamentally different in the South for free labor. Chapter 4 demonstrated that farm and nonfarm wages equalized in real terms at the state level on an average monthly basis.

5.3 Regional Wage Differentials before the Civil War

Chapter 3 presented real wage series by region. In order to use these series to study the evolution of regional differentials in real wages, it is necessary to adjust the series for cross-regional differences in the cost of living. The procedure I follow has several steps.

The first step is to select a benchmark year. Because the nominal wage series are benchmarked to 1850, 1850 is a natural year to choose. The second step is to compute a regional price deflator for 1850; once this price deflator is calculated, it is straightforward to compute real wage series whose levels can be compared across regions.

To fix ideas, let w_j be the nominal wage in region j in 1850, let p_j be the price level in region j in 1850, and let the base region be the Northeast (region N). For region j, the real wage in 1850 relative to the Northeast is

$$rw_j(1850) = (w_j/w_N)/(p_j/p_N).$$

Note that, for the Northeast, $rw_N(1850) = 1$ by definition. The relative real wage can be computed for any year t:

$$rw_j(t) = rw_j(1850) \times [w_{rj}(t)/w_{rN}(t)],$$

where $w_{rj}(t)$ is the region-specific real wage index number in year t(w_{rj} [1850] = 100 for each region).

I also define the aggregate real wage, rw, to be

$$rw(t) = \Sigma\alpha_j(t) \times rw_j(t),$$

where $\Sigma\alpha_i = 1$, and the α_i's are regional occupation-specific labor force shares (see below). Note that the region has lower than average real wages if $rw_j/rw < 1$ and higher than average real wages if $rw_j/rw > 1$.

In computing the 1850 regional price deflators, an ideal solution is to choose a set of identically defined goods that are common to all regions.

Unfortunately, the set of such goods for which price data are available is too small, in my opinion, for the purpose at hand.

To compute the relative price deflators, I use the state averages for the weekly cost of board as published in the 1850 Census of Social Statistics. I calculate regional averages of the weekly cost of board, which are weighted averages of state figures (see app. 5A). Let b_j be the average cost of board in region j, with "N" again indicating the Northeast. The regional relative price deflator is $p_j = b_j/b_N$.

Use of board to compute the benchmark relative price index has advantages and disadvantages. The cost of board is a summary statistic of the cost of living.[4] As discussed in chapter 2, the original data were collected at the minor civil division level and provide far better geographic coverage than other antebellum price data.[5] Similar studies of regional differences in real wages for the postbellum period by Rosenbloom (1990, 1996) also use food prices to construct the price deflator, so there is an element of consistency in doing so for the antebellum period.

The major problem in using the cost of board as the cross-regional deflator is that nonfood items appear to be ignored.[6] However, it is important to keep in mind that the cost of board reflected not only the cost of the raw materials (food) but also other inputs used in producing the final product, including land. Consequently, the cost of board varied widely across geographic areas, in a manner that was consistent with general variations in the cost of living. Coelho and Shepherd's (1974) estimate of the cost of living in the Midwest relative to the Northeast for 1851 was 0.837. My estimate of the relative cost of living in the Midwest for 1851—again, solely using board for the benchmark deflator—is 0.809, very close to Coelho and Shepherd's figure.[7]

The α weights are derived from the 1850 Census of Occupations and Weiss's (1992) regional figures on the total and nonfarm labor force. First, using the 1850 census, I calculate regional totals of individuals in specific occupations. In the case of common labor, the occupations are "farmer" and "laborer," as reported in the census.[8] In the case of artisans, I sum the number of blacksmiths, carpenters, machinists, masons, and painters. In the case of white-collar workers, the occupation is "clerk."

Next, I compute occupation-participation ratios by region, where the numerator is the occupation total and the denominator is the region's labor force. In the case of common laborers, *labor force* means total (i.e., including farm); for artisans and clerks, *labor force* means nonfarm. For example, the participation ratio for clerks in the Northeast is 0.034 (= 57,908 clerks/1,701,400 nonfarm workers). I then assume that the ratios are constant for each of the census years from 1820 to 1860. Using Weiss's figures, it is straightforward to compute, for each census year, estimates of each region's share of the aggregate number of common laborers, artisans, and so on. Finally, I linearly interpolate the weights (the regional

occupation shares) between census dates. The weights are shown in appendix tables 5B.1–5B.3.

Panel A of tables 5.2–5.4 shows occupation-specific decadal averages of the log of the ratio of real wages in the Midwest to those in the Northeast and of real wages in the South Central region to those in the South Atlantic. In the North, the dominant long-run pattern was regional equalization. In the 1820s, real wages in the Midwest exceeded real wages in the Northeast by 0.28 in log terms for common laborers and by considerably more for skilled artisans and clerks. By the 1850s, these wage gaps had undergone a pronounced decline; for example, in the case of artisans, the wage gap fell by −0.31 in logs. The declines were not monotonic, however. The regional wage gap for common labor rose slightly in the 1830s and 1850s, as did the gap for clerks in the 1840s and skilled laborers in the 1850s.[9]

The initial real wage advantage of the South Central region over the South Atlantic was smaller than the gap between the Midwest and the Northeast, and, unlike in the North, there was no clear trend in the South toward wage equalization. For common labor, the wage gap between the South Central and the South Atlantic states was about 13 percent in the

Table 5.2 **Regional Real Wage Differences: Common Laborers**

	A. Within North and South (decadal averages, log of real wage ratio)			
	1821–30	1831–40	1841–50	1851–60
Midwest-Northeast	.281	.308	.140	.153
South Central–South Atlantic	.120	.189	.130	.113
	B. Relative to National Average (decadal averages, log of real wage ratio)			
Northeast	−.084	−.078	−.009	−.052
Midwest	.197	.230	.131	.101
South Atlantic	−.038	−.160	−.192	−.118
South Central	.082	.028	−.062	−.005
Mean absolute deviation[a]	.090	.120	.079	.070
	C. Regression of $\ln(rw_j/rw)_t = \delta + \beta \ln(\alpha_j)_t$			
		β	t-Statistic	
Northeast		−.198	−1.385	
Midwest		−.149	−3.352	
South Atlantic		.057	.686	
South Central		−.840	−2.695	

[a]Mean absolute deviation is $\Sigma(\alpha_j|rw_j/rw|)/4$; rw_j is log real wage in region j; rw is log national average; and α_j is decadal average of regional occupation weight.

Table 5.3 **Regional Real Wage Differences: Artisans**

	A. Within North and South (decadal averages, log of real wage ratio)			
	1821–30	1831–40	1841–50	1851–60
Midwest-Northeast	.567	.461	.229	.263
South Central–South Atlantic	.083	.082	.108	.162
	B. Relative to National Average (decadal averages, log of real wage ratio)			
Northeast	−.189	−.189	−.136	−.121
Midwest	.378	.272	.093	.142
South Atlantic	.177	.164	.142	.035
South Central	.260	.246	.250	.197
Mean absolute deviation[a]	.210	.202	.139	.125

	C. Regression of $\ln(rw_j/rw)_t = \delta + \beta \ln(\alpha_j)_t$	
	β	t-Statistic
Northeast	−.765	−4.926
Midwest	−.284	−8.061
South Atlantic	.208	4.826
South Central	−.043	−.179

[a]Mean absolute deviation is $\sum(\alpha_j|rw_j/rw|)/4$; rw_j is log real wage in region j; rw is log national average; and α_j is decadal average of regional occupation weight.

Table 5.4 **Regional Real Wage Differences: Clerks**

	A. Within North and South (decadal averages, log of real wage ratio)			
	1821–30	1831–40	1841–50	1851–60
Midwest-Northeast	.562	.359	.448	.273
South Central–South Atlantic	.187	.215	.210	.261
	B. Relative to National Average (decadal averages, log of real wage ratio)			
Northeast	−.161	−.155	−.156	−.117
Midwest	.401	.204	.282	.162
South Atlantic	.086	.076	.082	−.046
South Central	.273	.291	.292	.215
Mean absolute deviation[a]	.171	.163	.186	.130

	C. Regression of $\ln(rw_j/rw)_t = \delta + \beta \ln(\alpha_j)_t$	
	β	t-Statistic
Northeast	−.037	−.127
Midwest	−.179	−4.718
South Atlantic	.132	3.176
South Central	.296	1.508

[a]Mean absolute deviation is $\sum(\alpha_j|rw_j/rw|)/4$; rw_j is log real wage in region j; rw is log national average; and α_j is decadal average of regional occupation weight.

1820s. The gap rose in the 1830s but then fell back in the 1840s. The gap declined slightly in the 1850s but was only marginally lower in the 1850s than in the 1820s.

In the case of artisans, the wage gap between the South Central and the South Atlantic regions remained constant at about 8 percent in the 1820s and 1830s, rose slightly in the 1840s, and then increased substantially in the 1850s. The initial regional wage gap was considerably larger for clerks—about 0.19 in log terms—and the gap trended slightly upward over the antebellum period, reaching 0.22 in log terms by the 1850s.

Panel B of tables 5.2–5.4 shows occupation-specific decadal averages of the $\ln(rw_j/rw)$—that is, the log of the region's real wage relative to the national average. Also shown is the weighted mean absolute deviation, which is the weighted average of the absolute values of $\ln(rw_j/rw)$. The mean absolute deviation can be interpreted as a summary statistic of the overall extent of regional wage differentials—if the deviation declines, regional wage differentials, on average, were falling.

Consistent with the findings in panel A, wages of common laborers in the Midwest in the 1820s exceeded the national average but converged from the 1820s to the 1850s. Convergence, however, was not monotonic—common wages in the Midwest rose relative to the national average in the 1830s. Real wages in the Northeast in the 1820s were below average but also converged by the 1850s, although again not monotonically.

The real wages of common laborers in the South Atlantic states were below the national average in the 1820s but slightly above levels in the Northeast. However, by the 1830s, the pattern had reversed itself—the real wages of common laborers were higher in the Northeast than in the South Atlantic states. Real wages in the South Atlantic states fell further behind in the 1840s before recovering partially in the 1850s. The real wages of common laborers in the South Central states were above the national average in the 1820s but by the 1840s had fallen below the national average, as in the South Atlantic region. As in the South Atlantic region, however, some recovery occurred in the 1850s. Overall, the mean absolute deviation declined, but, because of the divergent trends in the 1830s and between the South and the North, the decline was relatively modest in magnitude and not monotonic.

The initial variation across regions in relative real wages of artisans and clerks was much larger than for common laborers. In the case of the North, the pattern of change, however, was similar to that for common labor. Real wages were much higher than average in the Midwest and lower than average in the Northeast; wages in both regions, however, converged on the national average. Again, the convergence was not monotonic; the gap between the Midwest and the national average widened for artisans in the 1850s and for clerks in the 1840s. For both occupations, the mean absolute deviation was lower in the 1850s than in the 1820s; in the case of

artisans, the decline took place in the 1840s, while, for clerks, the decline occurred in the 1850s.

Panel C of tables 5.2–5.4 reports the slope coefficients from regressions of $\ln(rw_j/rw)$ on $\ln \alpha_j$. The idea behind the regression is straightforward. If the slope coefficient is negative, then increases in the region's relative share of the (occupation-specific) labor force are associated with declines in the region's relative real wage, which is consistent with shifts in labor supply as the dominant factor behind shifts in relative wages across regions. However, if the coefficient is positive, then increases (decreases) in the region's labor force share were associated with increases (decreases) in the region's relative wage, a signal that demand shifts may have occurred.

The clearest evidence that shifts in supply were dominant appears in the regressions for the Midwest. For all three occupations, the coefficient was negative and statistically significant, with elasticities ranging from −0.15 (common laborers) to −0.28 (artisans). The coefficients were also negative for the Northeast but significant only in the case of artisans. For all three occupations in the South Atlantic states, and for white-collar workers in the South Central region, the coefficients were positive.

5.3.1 Discussion

The findings just presented bear on several important aspects of antebellum economic development. First, and most important, they are broadly supportive of a labor markets explanation of the settlement process, along the lines suggested by Coelho and Shepherd (1976). Real wages were initially higher on the frontier (the Midwest and South Central states) than in the settled East (the Northeast and South Atlantic). The existence of these regional wage gaps provided, at least in principle, an economic incentive to migrate to the frontier and thus help resolve the paradox noted earlier in the chapter—the movement of population from higher per capita income regions, such as the Northeast, to lower per capita income regions, such as the Midwest.

In the North, the shift of labor toward the Midwest coincided with a secular decline in the regional wage gap, especially pronounced in the case of artisans and white-collar laborers. The opposing movement in relative wages and labor force shares in the Midwest is consistent with the view that supply-side factors—migration—explain the secular trend in convergence in wages between the Midwest and the Northeast, although this does not rule out the possibility that other forces played a contributing role.[10]

It is instructive to compare my estimates of regional wage gaps in the North in the 1850s with those for later decades of the nineteenth century. According to Rosenbloom (1991, 427), real hourly wages of common laborers were 10 percent higher in the Midwest than in the Northeast in 1890; for artisans, the gap was somewhat larger (22 percent). Here, *real*

means deflated by an index of food prices, similar to my definition of *real*. My estimates imply that real (daily) wages of common laborers were about 16.5 percent higher in the Midwest than in the Northeast in the 1850s; the corresponding gap for artisans was 30 percent. Thus, the process of regional labor market integration in the North began before the Civil War but was not complete on the eve of the conflict.

In the South, the dominant migration pattern was also east-west, but the shift of labor toward the South Central states did not coincide with a narrowing of regional wage gaps—if anything, the gaps were wider on the eve of the Civil War than in the 1820s. The failure of the regional wage gaps to close in the South seems inconsistent with the views of various historians who have argued that the existence of interregional slave markets enhanced the general efficiency of east-west factor mobility in the South (Fleisig 1976; Field 1978; Wright 1978).

In the case of common labor, the absence of regional wage convergence in the South was not the only adverse pattern. Using the regional labor force shares, it is possible to produce an overall estimate of the North-South wage gap for common labor.[11] This gap was slightly *negative* in the 1820s, indicating that real wages were initially higher in the South. But, in the 1830s, the wage gap turned markedly in favor of the North. The gap continued to widen in the 1840s before narrowing somewhat in the 1830s, although still remaining positive.

As noted earlier in the chapter, economic historians have long been aware of the existence of a North-South wage gap after the Civil War, but the origins of the gap—in particular, whether it predated the war—have remained somewhat mysterious (Wright 1986). My results suggest that the origins can be dated to the 1830s, a timing that can hardly be considered random, especially in the light of the evidence presented earlier that shifts in relative demand against the South Atlantic region took place in that decade. Beginning in the late 1820s, and continuing through the 1830s, improvements in internal transportation, rising demand for cotton, and various federal land policies that subsidized frontier development helped fuel a land boom in the Midwest and South Central regions (Temin 1969; Lebergott 1985). This demand shock evidently left its imprint on the labor market in the form of rising real wages for common laborers in both regions relative to their respective regions of settlement (the Northeast and South Atlantic). However, the real wages of common laborers in the South Atlantic region fell relative to wages in the Northeast, a pattern that is difficult to explain except by a shift in relative labor demand in favor of the Northeast. The most plausible candidate for such a demand shift is early industrialization. Manufacturing first took hold in the 1820s and began to grow rapidly in the 1830s. However, the early growth of manufacturing was not distributed uniformly across the antebellum landscape; instead, it was concentrated in the Northeast (Goldin and Sokoloff 1982).

The combination of demand shocks favoring the Midwest and the Northeast can explain why the real wages of common laborers in the South fell below those of common laborers in the North before the Civil War.

In the mid-1840s, the United States became the recipient of large inflows of immigrants. Immigrants generally avoided the South but otherwise dispersed themselves across the Northern landscape (Ferrie 1999).[12] Recent work by Williamson (1995) suggests that the 1840s immigration marked the onset of a global labor market; if so, the infusion of immigrant labor into the North appears to have speeded up somewhat the process of regional wage equalization. By augmenting the Northern labor supply, the influx of immigrants may also help explain why the North-South wage gap for common labor narrowed somewhat in the 1850s.[13]

Finally, it is evident from tables 5.2–5.4 that real wages differed in level across regions and that growth rates of real wages varied across regions (see also chap. 3). It follows, therefore, that the growth rates of the national aggregate series—that is, the weighted average of the regional series—may differ from the region-specific rates of real wage growth.

Appendix table 5B.4 shows annual values of national aggregates of nominal wages, computed by weighting the regional series in chapter 3 by the region-occupation shares (the α's). National aggregates of real wages, constructed in the manner described earlier, are shown in appendix table 5B.5. Long-run growth rates of the aggregate real wage series, calculated as the coefficients on a linear trend, are shown in table 5.5. According to my estimates, between 1821 and 1860, the aggregate real wages of unskilled laborers grew at 1.04 percent per year, those of skilled artisans at 0.73 percent per year, and those of clerks at 1.52 percent per year.

How important was the geographic redistribution of the labor force in influencing aggregate growth rates? One way to answer this question is to recompute the aggregate series under the assumption that α weights are fixed at their 1820 values. Estimates of trend growth derived from these fixed-weight series are shown in table 5.5.

In general, population redistribution had a modest effect on the aggre-

Table 5.5 **Aggregate Growth Rates: Real Wages, 1821–60**

	Common Laborer	Artisan	Clerk
Variable weight	.0104	.0073	.0152
t-Statistic	4.795	4.544	6.432
Fixed weight	.0097	.0064	.0141
t-Statistic	4.603	3.799	6.043

Note: Figures are coefficients (β) of trend in regression of aggregate real wage: $\ln rw = \alpha + \beta T + \varepsilon$. Variable weight: allows α_j to vary over time; fixed weight α_j is fixed at initial (1821) value (see the text).

gate real wage growth. The largest effect occurred for white-collar workers, for whom redistribution increased the growth rate from 0.0141 to 0.0152 percent per year. Cumulated over forty years, the real wages of white-collar workers were about 4.5 percent higher in the aggregate than they would have been had no population redistribution occurred.[14]

In the light of the evidently large regional gaps in real wages, it might seem surprising that population redistribution had such a small effect on aggregate growth. While population redistribution from east to west did raise the aggregate growth rate, the convergence of regional wage levels offset these gains.[15] In addition, the South Atlantic states played an important role in dampening aggregate growth; the region did not shed unskilled labor fast enough when its real wages began falling relative to the national average, nor did its share of skilled labor (artisan or white collar) increase when wages in these occupations were above the national average.

5.4 Wage Convergence, 1850–60: Evidence from the Censuses of Social Statistics

Section 5.3 presented evidence that real wages differed in level across regions in the 1820s but that most regions shared in a process of real wage convergence by the 1850s. Can the same be said for real wages measured at the level of smaller geographic areas (local labor markets)?

Differences in real wage levels across local labor markets were, in a quantitative sense, significant during the antebellum period. These differences can be documented at the county level using the eight-state sample from the Censuses of Social Statistics, discussed in chapter 2. Table 5.6 shows the 10-90 spread in the log of the real wage of common labor, for various states in this sample, in 1850 and 1860. (The 10-90 spread is the difference between the log real wage at the tenth percentile and that at the ninetieth percentile, across counties in a given state.) Here, the *real wage* is defined as the nominal wage deflated by the cost of board. On the face of the evidence presented in table 5.6, it would appear that common laborers could potentially increase their living standards by moving from low-

Table 5.6 **10-90 Spread: Log of Real Daily Wage of Common Labor, across Counties, 1850**

Massachusetts	.17	North Carolina	.81
Pennsylvania	.31	Virginia	.69
Michigan	.48	Kentucky	.55
Iowa	.46	Tennessee	.63

Source: Sample from 1850 and 1860 manuscript Censuses of Social Statistics.

Note: The 10-90 spread is the difference in log wage at the tenth and ninetieth percentiles of real wage distribution across counties within state. The real wage is the estimated nominal weekly wage ([daily wage × 6]/weekly cost of board).

to high-wage counties within states—typically, a shorter-distance move than one across regions.

To measure the extent of wage convergence at the county level, I use the eight-state sample from the 1850 and 1860 Censuses of Social Statistics. The empirical model that I have in mind is a version of the relative demand-supply model discussed earlier in the chapter:

$$w/p_{it} = -\varepsilon L_{it} + d_{it},$$

$$\Delta L_{it} = L_{it} - L_{it-1} = \Delta s_{it} + \theta(w_{it-1}/p_{it-1}).$$

The first equation is the relative demand curve, i indexes location (county), w/p is the real wage (as above, the nominal wage deflated by the cost of board), d is the demand shift term, ε is the wage elasticity of labor demand (all variables are measured in logs), and t is the time period. The second equation is the relative supply curve: the change in labor supplied to location i between periods $t - 1$ and t is a positive function of the real wage in period $t - 1$ ($\theta > 0$), and Δs is the change in factors that shift supply. Because I am using the census data, $t = 1860$, and, therefore, $t - 1 = 1850$.

Taking first-differences, and solving for $\Delta(w/p)_{it}$,

$$\Delta(w/p)_{it} = \Delta d_{it} - \varepsilon \Delta s_{it} - \beta(w_{it-1}/p_{it-1}),$$

where $\beta = \varepsilon\theta$. At issue is whether $\beta > 0$.

The model of relative supply and demand requires a definition of *relative*. Here, my presumption is that *relative* means "within state," which, in terms of the empirical estimation, is equivalent to including dummy variables for states in the regression given above.[16] Estimation also requires a specification for $\Delta d - \varepsilon \Delta s$. I assume that this expression is approximated by including the growth rate of population in the county as well as the change in urbanization.[17] Because both variables may be proxies for demand as well as supply shifts, the signs of their coefficients are not predetermined (i.e., they could be positive or negative).

Because chapter 4 found essential equivalence in wages of farm and common laborers within counties, I group the data for these two occupations together. Ordinary least-squares regressions are estimated for unskilled laborers (common and farm laborers) and carpenters.

Table 5.7 shows the estimates of β by occupation. The estimates are significantly different from zero and relatively close to unity. Although one might imagine reasons why the coefficients might differ with respect to occupation, little evidence is in fact found of such differences. On average, a county with real wages that were 10 percent higher than average in 1850 experienced real wage growth that was 8 percent below average between 1850 and 1860. This is a substantial degree of wage convergence, especially in the light of the fact that the regressions do not directly control for

Table 5.7 Wage Convergence Regressions, 1850–60: Coefficient Estimates

	A. Common and Farm Labor			
	β	*t*-Statistic	β	*t*-Statistic
w/p_{50}	−.854	−28.012	−.859	−28.035
ΔPopulation			−.032	−1.413
ΔUrban			−.051	−1.537
State dummies	Yes		Yes	
R^2	.481		.483	
	B. Carpenters			
w/p_{50}	−.839	−17.731	−.848	−17.719
ΔPopulation			−.041	−.800
ΔUrban			−.113	−1.720
State dummies	Yes		Yes	
R^2	.419		.421	

Source: Eight-state sample from 1850 and 1860 Censuses of Social Statistics (see the text, esp. chap. 2). Observations are county level. Dependent variable is log of weekly real wage in 1860 (= nominal weekly wage/weekly cost of board). Nominal daily wage for farm labor is (monthly wage with board + 4.3 × weekly cost of board)/26. Weekly wage is 7 × daily wage. Nominal weekly wage of common labor and carpenters is 7 × nominal daily wage without board. Δpopulation = log(population 1860/population 1850). Δurban = 1 if county contained at least one urban area of population ten thousand or more in 1860 but not in 1850, 0 otherwise.

location-specific amenities or disamenities, which would tend to bias β toward zero.[18] Population and urban growth were associated with lower rates of real wage growth between 1850 and 1860, which suggests that both variables were associated with outward shifts in relative supply that were greater than those in relative demand.

In sum, the evidence from the census suggests that, given enough time to adjust, local labor markets functioned comparatively well before the Civil War. Counties that were high wage—and, therefore, were more costly locations from a production point of view (cf. chap. 4)—did not remain high wage for very long; the reverse was true for low-wage counties. The pace of wage convergence within states was quicker than the pace of convergence across regions, which is consistent with costs of adjustment (migration) being lower, on average, within states than across regions.[19]

5.5 Conclusion

This chapter has used both the wage series from chapter 3 and the eight-state sample to study geographic aspects of labor market integration. In the North, real wages followed a pattern of convergence: real wages were highest initially on the frontier and tended to decline over time relative to real wages in settled regions. The South Atlantic region was an exception

to this pattern: real wages there evidently fell over time relative to other regions, at the same time that the region's share of the national labor force was declining.

I also found evidence of wage convergence at the county level: wage growth between 1850 and 1860 was significantly slower in counties that began the decade with relatively high wage levels. Such wage convergence is consistent with an arbitrage process described by a simple model of (local) labor supply and demand and, therefore, strongly suggests the presence of market forces in the determination of wages at the local level.

Appendix 5A

Computation of Regional Price Deflators, 1850

As noted in the text, the regional price deflators are constructed from the state averages of the weekly cost of board published in the 1850 census. Let b_j be the published state average. Then $b = \sum \gamma_j b_j$ is the regional average, where the weights (γ_j) are computed from Weiss's (1992) labor force.[20] I make a further adjustment to the regional estimates by multiplying each by a regional adjustment factor η.[21] The regional deflators are computed by dividing each region's estimate by the estimate for the Northeast. Multiplying by 100, the results are 100.0 for the Northeast, 74.1 for the Midwest, 85.2 for the South Atlantic region, and 99.4 for the South Central states. Thus, the cost of living was relatively low in the Midwest compared with that in the Northeast, while the reverse was true in the South Central states compared with the South Atlantic. To construct the regional relative real wage indices discussed in the chapter, follow the procedure in the text using these cost-of-living figures, the benchmark wage estimates for 1850 (from chap. 3), and the regional real wage indices from chapter 3.

Appendix 5B

Table 5B.1 **Regional Occupation Weights: Common Laborers**

	Northeast	Midwest	South Atlantic	South Central
1821	.499	.124	.258	.120
1822	.496	.128	.254	.122
1823	.494	.133	.251	.123
1824	.491	.137	.248	.125
1825	.489	.141	.244	.127
1826	.487	.145	.241	.129
1827	.484	.149	.237	.130
1828	.482	.154	.233	.132
1829	.480	.158	.230	.134
1830	.477	.162	.226	.135
1831	.472	.171	.221	.136
1832	.467	.180	.215	.137
1833	.462	.190	.210	.139
1834	.457	.199	.204	.140
1835	.452	.208	.199	.141
1836	.447	.217	.194	.142
1837	.442	.226	.188	.143
1838	.437	.236	.183	.145
1839	.432	.245	.177	.146
1840	.427	.254	.172	.147
1841	.425	.258	.169	.147
1842	.423	.263	.166	.148
1843	.421	.267	.163	.148
1844	.419	.272	.161	.149
1845	.417	.276	.158	.149
1846	.415	.280	.155	.149
1847	.413	.285	.152	.150
1848	.411	.289	.149	.150
1849	.409	.294	.147	.151
1850	.407	.298	.144	.151
1851	.404	.303	.142	.151
1852	.400	.308	.140	.152
1853	.397	.313	.138	.152
1854	.394	.318	.136	.152
1855	.391	.323	.134	.153
1856	.387	.327	.132	.153
1857	.384	.332	.130	.153
1858	.381	.337	.128	.153
1859	.377	.342	.126	.154
1860	.374	.347	.124	.154

Source: See the text.

Table 5B.2 **Regional Occupation Weights: Artisans**

	Northeast	Midwest	South Atlantic	South Central
1821	.608	.087	.224	.079
1822	.610	.088	.220	.081
1823	.613	.090	.215	.082
1824	.615	.091	.210	.083
1825	.617	.092	.206	.085
1826	.619	.093	.201	.086
1827	.621	.094	.196	.087
1828	.624	.096	.191	.088
1829	.626	.097	.187	.090
1830	.628	.098	.182	.091
1831	.621	.106	.179	.092
1832	.615	.115	.177	.093
1833	.608	.123	.174	.093
1834	.601	.131	.171	.096
1835	.595	.140	.169	.097
1836	.588	.148	.166	.098
1837	.581	.156	.163	.100
1838	.574	.164	.160	.101
1839	.568	.173	.158	.102
1840	.561	.181	.155	.103
1841	.561	.187	.150	.102
1842	.561	.193	.145	.101
1843	.561	.199	.140	.100
1844	.561	.205	.135	.099
1845	.561	.212	.131	.098
1846	.560	.218	.126	.097
1847	.560	.224	.121	.095
1848	.560	.230	.116	.094
1849	.560	.236	.111	.093
1850	.560	.242	.106	.092
1851	.559	.244	.105	.092
1852	.559	.245	.104	.092
1853	.558	.247	.103	.092
1854	.557	.249	.102	.092
1855	.557	.251	.101	.093
1856	.556	.252	.099	.093
1857	.555	.254	.098	.093
1858	.554	.256	.097	.093
1859	.554	.257	.096	.093
1860	.553	.259	.095	.093

Source: See the text.

Table 5B.3 Regional Occupation Weights: White-Collar Workers

	Northeast	Midwest	South Atlantic	South Central
1821	.587	.058	.249	.106
1822	.589	.059	.244	.107
1823	.592	.060	.239	.104
1824	.595	.061	.234	.111
1825	.597	.062	.229	.113
1826	.599	.062	.224	.114
1827	.602	.063	.219	.116
1828	.604	.064	.214	.118
1829	.607	.065	.209	.119
1830	.609	.066	.204	.121
1831	.604	.072	.201	.123
1832	.599	.078	.199	.125
1833	.593	.083	.196	.127
1834	.588	.089	.194	.129
1835	.583	.095	.191	.131
1836	.578	.101	.188	.133
1837	.573	.107	.186	.135
1838	.567	.112	.183	.137
1839	.562	.118	.181	.139
1840	.557	.124	.178	.141
1841	.559	.129	.124	.140
1842	.561	.133	.125	.138
1843	.563	.138	.125	.137
1844	.565	.142	.125	.136
1845	.567	.147	.126	.135
1846	.568	.152	.126	.133
1847	.570	.156	.126	.132
1848	.572	.161	.126	.131
1849	.574	.165	.127	.129
1850	.576	.170	.127	.128
1851	.575	.171	.126	.128
1852	.575	.173	.124	.129
1853	.575	.174	.123	.129
1854	.575	.176	.121	.130
1855	.574	.177	.120	.130
1856	.574	.178	.119	.130
1857	.573	.180	.117	.131
1858	.573	.181	.116	.131
1859	.572	.183	.114	.132
1860	.572	.184	.113	.132

Source: See the text.

Table 5B.4 Aggregate Nominal Wage Estimates ($)

	Common Laborers (Daily)	Artisans (Daily)	White-Collar Workers (Monthly)
1821	N.A.	N.A.	N.A.
1822	N.A.	N.A.	32.65
1823	N.A.	1.40	32.77
1824	N.A.	1.26	32.89
1825	.71	1.28	36.16
1826	.71	1.37	34.07
1827	.70	1.46	34.43
1828	.69	1.39	34.43
1829	.70	1.37	36.93
1830	.69	1.33	35.76
1831	.67	1.36	33.38
1832	.69	1.40	35.08
1833	.71	1.41	35.77
1834	.78	1.52	36.39
1835	.78	1.56	35.54
1836	.81	1.65	36.98
1837	.95	1.63	44.31
1838	.80	1.48	43.24
1839	.84	1.54	48.56
1840	.72	1.50	45.64
1841	.76	1.50	40.24
1842	.78	1.41	40.83
1843	.81	1.35	44.46
1844	.80	1.28	42.60
1845	.78	1.44	44.00
1846	.77	1.35	43.12
1847	.72	1.41	45.55
1848	.86	1.38	44.59
1849	.84	1.48	44.71
1850	.85	1.44	45.54
1851	.84	1.46	51.93
1852	.89	1.50	51.63
1853	.88	1.57	49.19
1854	.93	1.63	50.86
1855	.96	1.71	51.41
1856	.97	1.75	52.87
1857	1.02	1.84	55.25
1858	.96	1.87	52.81
1859	1.05	1.87	48.41
1860	1.03	1.83	52.10
	Five-Year Averages		
1821–25	.71	1.31	33.62
1826–30	.70	1.39	35.12
1831–35	.73	1.45	35.23
1836–40	.82	1.56	43.75
1841–45	.79	1.40	42.43
1846–50	.81	1.41	44.70
1851–55	.90	1.57	51.00
1856–60	1.01	1.83	52.29
	Decadal Averages		
1821–30	.70	1.36	34.45
1831–40	.78	1.51	39.49
1841–50	.80	1.41	43.57
1851–60	.96	1.70	51.65

Note: Covers Northeast, Midwest, South Atlantic, and South Central regions only. N.A. = not applicable.

Table 5B.5 **Aggregate Real Wage Series (1860 = 100)**

	Common Laborers	Artisans	White-Collar Workers
1821	N.A.	N.A.	N.A.
1822	N.A.	N.A.	54.3
1823	N.A.	72.4	60.3
1824	N.A.	68.2	62.6
1825	65.6	67.1	67.1
1826	74.3	80.6	71.2
1827	74.6	87.4	72.3
1828	75.7	84.4	73.6
1829	75.4	83.9	79.0
1830	77.2	83.6	78.9
1831	74.4	85.9	72.7
1832	73.2	83.6	73.1
1833	71.8	79.8	70.9
1834	82.2	88.8	75.2
1835	71.0	79.3	63.8
1836	61.9	71.2	56.3
1837	79.6	76.9	73.0
1838	71.0	73.8	75.2
1839	73.1	73.5	82.1
1840	78.9	90.2	96.1
1841	87.6	96.3	90.4
1842	110.9	109.9	109.6
1843	119.6	111.1	129.9
1844	114.4	104.5	122.5
1845	104.3	107.5	117.1
1846	100.9	97.8	113.0
1847	78.1	85.0	97.6
1848	115.9	104.3	119.0
1849	106.5	104.5	111.9
1850	97.2	92.7	103.4
1851	97.8	96.5	120.9
1852	99.5	94.9	115.6
1853	91.9	91.8	101.4
1854	92.5	89.8	98.6
1855	86.1	86.2	90.9
1856	85.0	85.6	91.1
1857	82.9	84.3	89.2
1858	96.3	102.8	102.2
1859	98.7	98.4	89.9
1860	100.0	100.0	100.0
	Five-Year Averages (1856–60 = 100)		
1821–25	70.9	73.5	64.6
1826–30	81.5	89.1	79.4
1831–35	80.5	88.6	75.3
1836–40	78.7	81.9	81.0
1841–45	116.0	112.3	120.6
1846–50	107.7	102.8	115.3
1851–55	101.1	97.5	111.6
1856–60	100.0	100.0	100.0
	Decadal Averages (1851–60 = 100)		
1821–30	79.3	84.3	68.8
1831–40	79.2	86.3	73.9
1841–50	111.3	108.9	111.5
1851–60	100.0	100.0	100.0

Source: See the text.

Note: Covers Northeast, Midwest, South Atlantic, and South Central regions only. N.A. = not applicable.