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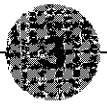

New Estimates of Nominal and Real Wages for the Antebellum Period

This chapter presents annual estimates of nominal and real wages for the antebellum period, making use of the sample from the *Reports of Persons and Articles Hired* discussed in chapter 2. The nominal wage estimates are based on hedonic regressions that control for worker and job characteristics. Nominal wages are converted into real wages by deflating by price indices constructed from regional information on wholesale prices. In general, the indices suggest that real wage growth occurred before the Civil War but that rates of growth varied significantly across occupations, across regions, and cyclically.

3.1 Hedonic Wage Regressions

A major goal of this book is to use the sample of payrolls from the *Reports* discussed in chapter 2 to construct annual time series of nominal and real wages. A key problem in doing so is to adjust for changes in the composition of the sample over time. By *composition,* I mean the characteristics of workers or jobs that potentially influenced wages—for example, the location of the fort.

One way to control for sample composition would be to construct average wage series for homogenous workers and then weight the separate series to produce an aggregate series. In practice, the definition of *homogenous* is data dependent since one can stratify only on the basis of observable characteristics. For example, one might imagine constructing an average wage series at each fort for all individuals reporting the occupation *laborer.* The fort-specific indices could then be aggregated by region, or for the nation as a whole, using an appropriate set of weights.

Unfortunately, the homogenous worker method suffers from a serious

practical problem. Although the *Reports* sample is very large by nineteenth-century standards, it is not sufficiently dense to implement the approach just described. By *dense,* I mean the adequate distribution of wage observations across forts. Few forts were operated continuously between 1820 and 1860, and none hired every type of worker in every year. Simply put, the homogenous worker approach would produce a large number of fort-specific series with too many gaps.

The solution that I propose is the method of *hedonic regression* (Rosen 1972). In a hedonic regression, the dependent variable is a price, and the independent variables are characteristics of the commodity under analysis. The notion is that these characteristics are bundled in the commodity. The price of the bundle is observed but not the prices of the underlying individual characteristics. The regression, however, reveals the prices of the characteristics by identifying them with the regression coefficients. A classic example involves housing—the price of a house can be observed but not the prices of the attributes (e.g., the number of bedrooms, the presence or absence of air conditioning, and so forth) that make up the house. But, with a sample of houses with differing characteristics, the attribute prices can be recovered by the regression—that is, the attribute prices are the regression coefficients. Once the coefficients have been estimated, the price of any type of house can be estimated.

The advantage of the hedonic method is that it provides a straightforward way of controlling for changes in the composition of the *Reports* sample over time. The disadvantage is that a regression specification must be imposed a priori on the data. Tight specifications—those imposing many restrictions—will, in general, produce coefficients with smaller standard errors but at the cost of lost historical detail.[1] By contrast, free specifications—those with few coefficient restrictions—aim at maximizing historical detail but, because of insufficient sample sizes, may produce coefficients whose historical relevance is difficult to distinguish from sampling error.

The specification that I adopt imposes some coefficient restrictions while maintaining the goal of producing annual time series. The regression specification is

$$\ln w_{it} = X_{it}\beta + \Sigma\delta_t D_t + \varepsilon_{it},$$

where $\ln w_{it}$ is the log of the daily wage pertaining to observation i, which is observed in time period t; the X's are worker and job characteristics; β is a vector of regression coefficients; the D's are time-period dummies; and ε is an error term.[2] One of the δ_t's refers to the base period—for example, the final time period, T—and its value is set equal to zero by definition ($\delta_T = 0$).

This specification divides up the dependent variable, $\ln w$, into two

parts. The first part is the value of a given bundle of worker and job characteristics (X_{it}), $X_{it}\beta$. Each component of the vector β is the hedonic price of the associated component of X. By assumption, the specification holds the structure of hedonic prices—that is, the vector β—constant over the sample period. The value of any given bundle ($X\beta$) is allowed to change from period to period, according to the coefficients of the time-period dummies. However, because β does not depend on t, and because the dependent variable is expressed in logarithmic terms, the value of any given bundle in one period *relative* to another period depends on the coefficients of the time dummies, not on X or on β.[3]

In a less restrictive specification, β would be allowed to vary across time periods—ideally, for each time period. However, allowing β to vary over time greatly increases the number of coefficients to estimate, producing the trade-off noted above between sampling error and historical detail.

While I impose the restriction that β is independent of time, I do allow β to vary across occupation groups, census regions, and—to a limited extent—slave versus free labor. Specifically, I estimate regressions for three occupation groups (unskilled laborers, artisans, and white-collar workers) for four census regions (the Northeast, the Midwest, the South Atlantic, and South Central states). The unit of observation is a person-month—that is, each individual listed on a monthly payroll is treated as a single observation. If the worker was paid monthly, his wage was converted into a daily wage by dividing by twenty-six days per month.[4] The X's are dummy variables for the location of the fort (e.g., upstate New York); occupation (e.g., carpenter); characteristics of the worker or the job associated with especially high or especially low wages (e.g., master or apprentice status); whether the worker was paid monthly; the number of rations, if any, paid to the worker; and the season of the year.[5]

The sample covers slaves employed at Southern forts, so a dummy variable is included for slave status in the artisan and common labor regressions for the South Atlantic and South Central states (no slaves were hired in white-collar occupations). In the case of both South Atlantic regressions and the common labor regression for the South Central region, the coefficient of slave status is permitted to vary across decades (e.g., the 1840s vs. the 1830s and so on).[6]

As far as possible, the time-period dummies—the δ's—refer to specific years. However, in many of the regressions, sample sizes in certain years were judged to be too small to estimate meaningful single-year dummies; instead, observations were categorized by groups of years (e.g., 1851–53). The implications of grouping years for the calculation of nominal and real wage series are addressed later. The regressions are reported in appendix tables 3A.1–3A.4.

Overall, the regressions fit the data reasonably well—the R^2's range

from 0.4 to about 0.75. Although the primary goal of this chapter is to convert the coefficients of the time dummies into nominal and real wage series, I briefly discuss the regression coefficients.

3.1.1 Fort Location Effects

There are many reasons to expect variations in wages across forts. Some forts were located in undesirable or dangerous areas; economic theory suggests that quartermasters would have had to pay higher wages to attract civilian workers to such installations. Wages might have been unusually high or low in a given labor market independent of any amenities or disamenities associated with the fort's location—however, the evidence presented in chapter 5 suggests that such disequilibria tended to dissipate relatively rapidly during the antebellum period. Finally, the fort location coefficients may also capture unobserved worker or job characteristics—that is, characteristics not reported in the payrolls—that affected wages and also varied across fort locations.

It is clear from the regression coefficients that fort location mattered. Although the results are difficult to summarize succinctly, remote locations seem to have required a wage premium. For example, forts located in northern New England needed to pay higher wages to attract common laborers or artisans. St. Louis, too, was a frontier location, and wages there were generally higher than in Pittsburgh, Cincinnati, or Detroit.

Particularly large was the wage gap between New Orleans and other forts located in the South Central region. For example, compared with Alabama or Mississippi, common laborers in New Orleans commanded a premium of nearly 31 percent. Although some of the wage gap may reflect price effects (New Orleans was a notoriously expensive city during the antebellum period), it might also reflect a risk premium, as morbidity and mortality rates were very high in New Orleans (Rosenberg 1962). Fort effects were generally larger in magnitude for white-collar workers than for common laborers or artisans.

3.1.2 Worker and Job Characteristics

Several variables are included as indicators of worker and job characteristics—the high-low dummies, the dummy for the pay period (monthly vs. daily), the number of rations (certain regressions only), and slave status (South only).

By design, high-low dummies capture differences in pay within occupation categories that reflect differences in skill or—in the case of common labor—differences associated with arduous or undesirable tasks ("cleaning the privies"). Care was taken to assign observations to the high-low statuses in a conservative manner—that is, either there was a clear indication of such status (e.g., master or apprentice status), or the absence of a

clear indicator appeared to be an error on the part of the quartermaster preparing a payroll. In doubtful cases, however, no assignment was generally made, so it is likely that the high-low coefficients are biased toward zero.

Relatively little is known about the process by which individuals acquired marketable skills before the Civil War. Sons followed in their father's footsteps, learning a trade while young or learning the skills associated with agriculture. Immigrants came with skills learned in their country of origin, which may or may not have been readily adapted to the New World. In the North, basic literacy was more or less assured for the native-born white population by the time of the Civil War. Scattered evidence for Pennsylvania suggests that the returns to formal education were quite high, perhaps as much as 10 percent per year of school (Soltow and Stevens 1981). The wage evidence presented in this chapter indicates that white-collar workers hired by the army earned higher wages than common laborers.

For young men who could not, or would not, follow in their father's footsteps, apprenticeship was another means for acquiring skills. Apprenticeships began at very early ages and continued at low (or no) pay for several years while the apprentice was learning the basics of the trade. Journeyman status followed the apprenticeship, during which time the individual might strike out on his own or, more commonly, work for a master craftsman in an artisanal shop. Production methods in the artisanal shop were traditional; in the archetypal version, each journeyman worked on an article (e.g., shoes) from start to finish, or else the degree of specialization was very limited. Journeymen owned the means of production—their tools. Although their employers tried to extract monopsony rents by limiting mobility, ultimately they were unsuccessful, and free market competition for journeymen set their pay.

The final step after journeyman status was to become a master artisan. Masters were more than highly skilled members of a craft; they were owners of artisanal shops—a type of capitalist, albeit they worked with their hands—and they were managers of journeymen. Master status was not easily acquired, in terms of either skills or the necessary financial capital. The capital requirements were such that many masters were among the first investors in or owners of the new factories that replaced the artisanal shops as industrialization took hold. But master status was highly desirable because, with it, a journeyman could achieve some measure of economic independence, security, and social and, not infrequently, political status.

In the contemporary United States, wage differentials within labor market groups, such as college or high school graduates, are very large (Goldin and Margo 1992a). My antebellum regressions suggest that large wage differentials existed in the nineteenth century as well. Particularly striking is the difference between master artisans and apprentices; the wage gaps

range between 0.83 and 1.14 in log terms, or percentage ranges of 230–313 percent. Significant differentials are also apparent among common laborers, where they have more to do with compensating differentials for specific tasks than pure skill differentials. A wage hierarchy existed among white-collar workers, with the most able commanding wages far above the newly minted.

The coefficient on the monthly dummy is intended to capture the effects of unemployment risk and possibly differences in unobserved nonwage compensation. By *unemployment risk,* I mean differences across occupations in the risk of unemployment. Adam Smith suggested a classic example. In Smith's England, masons typically earned a higher daily wage than carpenters. Smith explained the wage premium by the fact that carpenters could work indoors during the winter while masons could not (masonry was outdoor work). Thus, carpenters were more fully employed during the year than masons and hence earned a lower daily wage.

Implicit in Smith's reasoning was an equilibrium argument: in the long run, the skills required to do masonry work were not much harder to acquire than those required of carpenters. Thus, if masons earned a wage premium in excess of the premium implied by unemployment risk, *and* if the excess premium persisted long enough for the supply of masons to increase, the premium would then be bid back down to its equilibrium level.

Historical evidence on unemployment risk premia in the American case has been analyzed most carefully for the late nineteenth and early twentieth centuries. Various surveys conducted by state bureaus of labor statistics contain information on wages, characteristics of workers, and the number of days annually employed. It is possible to use such information to estimate wage premia associated with less work annually and, in particular, whether any premia compensated fully for the lost work time (Fishback and Kantor 1992). Analysis of several such data sets for the late nineteenth century suggests that workers were less than fully compensated. For example, Kansas laborers in the 1880s received a wage premium of 0.18 percent per day; had they been fully compensated (assuming a workyear of three hundred days), the premium should have been 0.33 percent per day (Fishback and Kantor 1992; see also Hatton and Williamson 1991). In general, workers in the late nineteenth century appear to have received a wage premium sufficient to compensate them for about half the income lost because of involuntary unemployment.[7]

For the antebellum period, unfortunately, there are no data sets available to estimate unemployment risk premia in a manner comparable to Fishback and Kantor's (1992) study (even the *Reports* data cannot be used for this purpose). However, the dummy for monthly pay is arguably a good proxy for unemployment risk. Historians have long recognized that day and monthly wages diverged in a manner suggestive of unemployment risk premia; specifically, workers hired by the month received a daily wage that

was below that received by workers hired by the day (Lebergott 1964, 244–50).[8]

Systematic evidence of unemployment risk premia in the *Reports* sample was found in the case of common laborers and teamsters. In all four regressions, the coefficient of the monthly dummy was negative and statistically significant. In the North, the premium for day labor appears to have been larger in the Midwest, suggestive of a somewhat thinner labor market on the frontier than in settled areas.

The magnitudes of the coefficients are also suggestive. Suppose that premia compensated solely for lost income and that common laborers hired monthly were fully employed (as assumed in the regressions) for twenty-six days. Then the coefficient of the monthly dummy can be used to estimate the average number of days of employment per month for workers hired daily. These range from nineteen days per month in the Midwest to twenty-four days per month in the Northeast. Although these are plausible estimates, they should be interpreted cautiously since monthly labor may have received nonwage compensation not indicated in the *Reports*, which would bias the coefficients of the monthly dummies away from zero (and, therefore, bias the estimated days of employment per month downward).

The evidence of a premium for day labor is less systematic among artisans and white-collar workers. Although the monthly coefficient was negative in three of the artisan regressions, it was positive in the South Atlantic regression. Only white-collar workers in the Northeast received significantly lower daily wages if hired on a monthly basis.

Economic theory suggests that nonwage compensation should be associated with lower wages. In particular, workers who received rations should have received lower wages, all other factors held constant. In most cases, the reporting of rations was too uncommon to control for directly in the regressions.[9] When sufficient observations were available to include a dummy variable for the presence of rations, the coefficient was negative, confirming the hypothesis.

The coefficients on slave status were uniformly negative, indicating that slaves earned less per day than free labor. The gaps in wages between free and slave labor were generally larger in the 1850s than in the 1820s, consistent with the views of some scholars that slaves did not share (at least to the same extent as free labor) the benefits of antebellum economic development (Fogel 1989). The percentage difference in pay between slave and free labor was larger among artisans, which suggests that differences in (unobserved) skills between the two types of labor may have existed.[10]

3.1.3 Seasonality

Seasonality in labor demand was a characteristic of economic life in nineteenth-century America (Engerman and Goldin 1993). Agricultural

production has always been seasonal, but irregular production was also a characteristic of nonfarm activity, owing to the vagaries of the weather, transportation, and available power sources.

The best example of seasonality is the harvest labor demand in agriculture. The requirements of getting the crop in on time meant that demand for labor spiked around the time of the harvest. Although the supply of labor to the agricultural sector during the harvest was not fixed, it was far from perfectly elastic. There is abundant evidence of a harvest wage premium—that is, farmers were required to pay well above the going wage for temporary help (Schob 1975; Rothenberg 1992).

It is important to note that seasonality need not produce wage premia. What is critical is whether labor can shift between alternative uses of time in a manner that meshes with seasonal fluctuations; if this is the case, then wages could be equalized between the seasons. In addition, labor could be hired on a long-term contract, and, in agriculture at least, there is little evidence of seasonal premia in such contracts (Schob 1975).

Evidence from the *Reports* sample suggests that very modest seasonality in wages was a characteristic of antebellum labor markets, although the fluctuations do not follow any clear pattern. In the Northeast, wages for artisans appear to have been highest in the spring and fall. Wages for common laborers in the Midwest were higher during the fall, which coincides with harvest labor demands. Little evidence is found that wages varied by season at Southern forts, nor is there any evidence of seasonality in white-collar wages.

3.1.4 Occupational Pay Differences

By *occupational pay differences,* I mean the coefficients of the occupation dummies in the hedonic regressions. These coefficients reveal differences in average pay across the various occupations within the broad skill categories and are intended to capture differences in skill, additional aspects of employment risk not captured by the monthly dummy, or, possibly, compensation for capital brought to the job.

In general, masons (and painters and plasterers) were better paid than carpenters. As pointed out above, Adam Smith noted such a difference in England, attributing it to the fact that masons were underemployed during the colder months. If this were true, we would expect to see smaller gaps between masons and carpenters in the South and the North, which is generally what is found.

Some scholars have argued that teamstering was closer to a semiskilled than to an unskilled occupation (Schob 1975). If this were the case, teamsters should have earned somewhat higher wages than common laborers. While teamsters did receive a wage premium in the Northeast and in the South Central states, no such premium was evident in other regions. Finally, persons hired as clerks tended to receive somewhat higher wages

than those hired into other white-collar occupations at the forts, such as inspectors.

3.2 Nominal Wage Estimates

This section describes the construction of nominal wage estimates from the coefficients of the time-period dummies. The procedure for white-collar labor is different than that for common labor and for artisanal labor, so I describe both separately.

3.2.1 Common Laborers and Artisans

For common laborers and artisans, I compute annual series of nominal daily wage rates that are benchmarked to 1850 estimates computed from the Census of Social Statistics. The benchmarking is similar to that in Lebergott (1964) in that I compute weighted regional averages of daily wage rates from state-level estimates published in the 1850 census. However, I make two additional adjustments.

First, I adjust the regional estimates to reflect the fact that the state-level figures published in the 1850 census were apparently unweighted averages of figures for minor civil divisions and also contain some arithmetic errors. The adjustment is very crude; using the eight-state sample from the manuscript census, I calculate state averages and then the ratio of the state averages from the manuscripts to the averages published in the 1850 census. Each region has a separate adjustment ratio (computed as an unweighted average of the ratios for the two states in each region in the eight-state sample). I then apply the region-specific adjustment ratios to the initial regional estimates.

Second, in the case of artisans, I further adjust the benchmark to reflect the fact that the census collected data only on the wages of carpenters. I use the hedonic regression coefficients in conjunction with reported occupation totals in the 1850 census to compute this second adjustment factor. In general, this second adjustment raises the benchmark wage because carpenters were paid less than other artisans in the building trades (recall the discussion in the previous section).

3.2.2 White-Collar Workers

It is impossible to benchmark the white-collar series to the 1850 census because the census did not report white-collar wages in that year. In place of such benchmarking, I use the following procedure, to which I refer as a *fixed-worker* series. A fixed value of X is chosen, X^*, and the product $X^*\beta$ is computed.[11] To this product is added the coefficient of the time-period dummy for 1850, δ_{50}. Thus, for 1850, the estimated value of ln w, ln w^*, is

$$\ln w^* = X^*\beta + \delta_{50},$$

and the estimated nominal wage is

$$w^* = \exp(\ln w^*) = \exp(X^*\beta + \delta_{50}).$$

That is, choosing an X^* amounts to choosing a set of weights, which are then multiplied by the hedonic coefficients.

The fort location weights were derived from population figures in U.S. Department of Commerce (1975, ser. A, pp. 195–209) and are averages (of population shares) for 1840, 1850, and 1860.[12] With respect to the other X variables, the weights are as follows. The weight for the "high" and "low" variables is zero, as it is for the "rations" variable; for "spring," "summer," and "fall," the weight is 0.25. The "monthly" dummy is set equal to unity because the vast majority of white-collar workers were hired on a monthly basis.

3.2.3 Benchmark Estimates

The benchmark estimates are shown in table 3.1. Among Northern regions, nominal wages were lower in the Midwest than in the Northeast, with the difference slightly larger in the case of common labor. In the South, the regional contrast was reversed: nominal wages were higher in the South Central states. The ratio of white-collar to artisanal wages was also considerably higher in the North than in the South, suggesting higher returns to educated labor (relative to other skills) in the North.

3.2.4 Calculation of Annual Series

Once the benchmark estimates have been computed, the calculation of annual series is straightforward. Let $w(t)$ be the nominal wage in year t. Then

$$w(t) = w(1850) \times I(t),$$

where

$$I(t) = \exp(\delta_t - \delta_{50}),$$

and δ_t is the coefficient of the dummy for year t.[13]

This procedure must be modified when the time-period dummy refers

Table 3.1 **Benchmark Estimates, 1850: Nominal Wage Rates ($)**

	Common (Daily)	Artisan (Daily)	White Collar (Monthly)
Northeast	.94	1.42	42.17
Midwest	.80	1.35	47.12
South Atlantic	.68	1.44	42.95
South Central	.85	1.81	60.84

Source: See the text.

to a group of years rather than a single year. In general, when the time-period dummy refers to a group of years, the coefficient is assumed to refer to the midpoint of the group. Thus, for example, if the group refers to 1824–25, the coefficient refers to midyear 1824, and the time-period coefficient estimates for adjacent years (1824 and 1825) are linear interpolations based on the midpoint and the preceding (1823) and following (1826) years' estimates.

For common laborers and artisans, the series are average daily wage rates, without board. For white-collar laborers, the series are average monthly wage rates, without board.

3.2.5 Additional Modifications

For the purposes of the calculation of the series, additional modifications were made to the hedonic estimates. On the basis of an extensive analysis of the original data and other evidence, the Northeastern coefficients of the time dummies for 1835–37 for skilled labor and for 1836 for unskilled labor were deemed to be unreliable. To estimate wage changes from 1835 to 1837, data pertaining to workers at the Boston Naval Yard were used.[14] Average wage rates for skilled artisans (carpenters, masons, painters, and plasterers) and common laborers were calculated for each year at the yard, and the resulting percentage changes in wages were used to generate new estimates of the coefficients of the time dummies.[15]

3.2.6 Discussion of Nominal Wage Series

The nominal wage series are shown in appendix tables 3A.5–3A.7. In interpreting (and using) these series, certain limitations should be kept in mind. First, as noted earlier, the series are constructed from regressions that hold constant the structure of wages within occupation-region groups over time, although this structure is allowed to vary across groups. Second, the number of observations underlying certain estimates, particularly in the 1820s, is small. The weighting procedure that produces the benchmark estimates for clerks is crude. Finally, because the regressions do not fit the data perfectly, small fluctuations in wages may not be particularly meaningful. For this latter reason, five-year and decadal averages are also shown in the appendix tables.

Caveats aside, the estimates appear to be reasonable in terms of trends and levels. Wage levels generally increased in the early 1830s, peaking midway to late in the decade. The deflation following the Panic of 1837 is generally visible in every region. Wages generally rose during the renewed price inflation of the late 1840s and into the 1850s.

Unskilled wages in the 1820s were lower in the Midwest than in the Northeast, but the regional difference disappeared in the early 1830s as wages grew faster in the Midwest. Wages in the Midwest fell below levels in the Northeast in the early 1840s, but the gap closed in the 1850s.

The trend in unskilled wages in the South Atlantic region was flat from the 1820s to the 1840s, rising in the early 1850s. Unskilled wages in the South Central states rose from the early 1820s to a peak in 1841, falling sharply from 1841 to 1847. Wages increased from 1847 to 1852, then fell slightly in the middle of the decade. On average, unskilled wages in the South Central states were about 27 percent higher in the late 1850s than on average in the 1820s.

Nominal wages of artisans in the Midwest exceeded levels in the Northeast in the 1820s and 1830s but fell sharply in the 1840s, below levels prevailing in the Northeast. Recovery ensued in the 1850s so that, on average, wages were the same in both regions.

Wages of artisans in the South Atlantic states rose in the 1830s but fell back in the 1840s to the same level prevailing in the 1820s. A similar path was followed by artisanal wages in the South Central states. Outside the South Central states, artisanal wages differed relatively little across regions, on average, by the 1850s.

The wage series for white-collar workers follow different trends than the series for unskilled laborers or artisans. In the Northeast, there was a gentle acceleration in growth rates across decades; for example, white-collar wages grew by 11 percent comparing the 1830s to the 1820s, whereas the growth rate from the 1840s to the 1850s was 22 percent. In the Midwest, white-collar wages also grew more or less continuously, but the growth rate underwent a sharp upward increase in the 1840s, an increase that continued into the 1850s.

In the South Atlantic region, white-collar wages grew briskly in the 1830s and 1840s, but growth was much more modest in the 1850s. White-collar wages in the South Central region grew by 18 percent from the 1820s to the 1830s; the decadal growth rate fell to a more modest 7–9 percent in the 1840s and 1850s.

3.2.7 Alternative Nominal Wage Series: The Northeast and Midwest

The series for the Northeast and Midwest discussed above were constructed from regressions in which Pittsburgh was included in the Northeast. Although the inclusion of Pittsburgh in the Northeast is consistent with census practice (as noted in chap. 2), some might prefer to allocate Pittsburgh to the Midwest. Appendix tables 3A.12 and 3A.13 report nominal wage series for the Northeast and Midwest deriving from regressions in which Pittsburgh observations were included in the Midwestern regression samples. In the case of common laborers and artisans, the decadal averages are about the same regardless of how the Pittsburgh observations are allocated. In the case of white-collar workers, the inclusion of Pittsburgh in the Midwest produces a series that grows somewhat more quickly between the 1820s and the 1850s than when Pittsburgh is included in the Northeast. Correspondingly, white-collar wages in the Northeast grow

somewhat more slowly if Pittsburgh is excluded from the Northeastern sample.[16] In general, however, the substantive conclusions are similar regardless of how the Pittsburgh observations are allocated geographically. Analyses in the remainder of the book are based on the nominal wage series reported in appendix tables 3A.5–3A.7.

3.2.8 Comparing Different Nominal Wage Series: Unskilled Labor in the Northeast

Because there are no alternative wage series for the antebellum South or Midwest covering the full sample period, it is difficult to assess the novelty of the insights provided by the new wage estimates for these regions. It is possible, however, to compare the new estimates for the Northeast to previously constructed estimates. I compare my estimates for common labor with those produced by Williamson and Lindert (1980) and David and Solar (1977). I convert my nominal dollar estimates to index numbers because this is the form in which the Williamson-Lindert and the David-Solar series were published.

Table 3.2 provides five-year averages and rates of growth as derived from regressions of the log of the indices on a linear time trend. In several important respects, the three series agree and thus would provide the same substantive insights into real wage growth (as long as the same price deflator were used). All three indices suggest a positive trend rate of growth of nominal wages, between 1.0 and 1.4 percent per year. With regard to trend growth rates, the Margo and the David-Solar indices agree fairly closely (1.0 percent per year), while the Williamson-Lindert index shows a higher growth rate (1.4 percent per year).

However, there are important differences between the indices. Compared with the Margo index, the Williamson-Lindert index shows mark-

Table 3.2 **Comparison of Margo, Williamson-Lindert, and David-Solar Nominal Wage Indices: Common Labor, 1821–60 (1860 = 100)**

	Margo	Williamson-Lindert	David-Solar
1821–25	68.8	65.3	73.6
1826–30	65.1	67.0	71.8
1831–35	69.7	78.3	65.8
1836–40	78.0	93.6	93.6
1841–45	81.7	82.3	74.4
1846–50	84.4	88.3	77.6
1851–55	88.1	92.7	87.4
1856–60	97.2	98.7	95.2
Growth rate (%)	1.09	1.36	.99

Source: Margo, Northeastern common labor, this chapter; Williamson and Lindert (1980); David and Solar (1977).

Note: Growth rate is coefficient (β) in linear regression of the log of the nominal wage index: $\ln w = \alpha + \beta T + \varepsilon$.

edly higher growth from the 1820s to the 1830s and a decline in average wages from the 1830s to the 1840s, while the Margo index shows rising average wages in both decades. The David-Solar index shows a decline between the early 1820s and the early 1830s, while the Margo index is basically flat, and the David-Solar index displays a much steeper increase in the late 1830s than does the Margo index. Agreement between the indices, in terms of levels and the direction of changes, is better after 1840.

It is likely that splicing and other data problems involved in the construction of the Williamson-Lindert and David-Solar indices account for the differences with the Margo index. The Williamson-Lindert index shows an abrupt increase in nominal wages in 1835, an increase not present in the other indices. This abrupt increase occurs because Williamson and Lindert spliced two series together; the 1821–34 portion of their series pertains to Vermont farm labor (from Adams 1939), the 1835–39 portion to manufacturing workers (from Layer 1955). As chapter 4 will demonstrate, while real wages were apparently similar for farm and nonfarm laborers, there was a nominal wage gap (in the aggregate) between the two types of workers. Consequently, the splice in 1835 causes the Williamson-Lindert series to overstate nominal wage growth in the late 1830s.

Likewise, the jump in the David-Solar index in the late 1830s is an artifact of inadvertently mixing data from a high-wage region outside the Northeast with data that otherwise refer to the Northeast and failing to control for the resulting compositional effect. Although David and Solar purport to rely on wage observations strictly from the Northeast for the pre-1840s portion of their nominal wage index, for the period 1836–38 they made use of quotations from the Weeks Report, which actually pertained to St. Louis (see Margo 1992, 188). The hedonic regressions suggest that nominal wages were relatively high in St. Louis—hence the overstatement of nominal wages in the late 1830s by the David-Solar index.

In sum, while the three indices are in broad agreement about long-term trends and important medium-term movements, they differ in their implications for wage growth across decades and over shorter periods. It is not by chance that discrepancies between the indices are more apparent for the 1820s and 1830s than after for these are the decades for which Williamson and Lindert as well as David and Solar were forced to splice together data from disparate sources in order to construct continuous time series. The nominal wage series constructed here, by contrast, relies on consistent data and a method that, by construction, controls for changes in sample composition over time.

3.3 Real Wage Indices

To convert a nominal wage series into an index of real wages, one must deflate by an index of prices. Since my wage series are region specific, so should the price indices be. The only available region-specific price data

for the antebellum period are those reported in Cole (1938), which were derived from newspaper and other listings of the so-called *Prices Current,* which pertained to wholesale prices. Using these data, Goldin and Margo (1992b) constructed fixed-weight, region-specific price indices for the period 1820–56 from commodity-specific price indices. For the purposes of this chapter, the Goldin-Margo indices have been updated to 1860, with some modifications.[17]

As deflators for nominal wage series, the new indices are clearly superior to the general purpose indices reported in Cole (1938) because the new indices are based on consumption goods like flour, pork, and coffee and exclude other commodities like iron bars that were not consumed by households (but that were included in previous wholesale price indices).[18]

My procedure assumes that price data for, say, New Orleans provide a usable price deflator for the entire South Central region. If, however, price trends within regions varied from those established in the major wholesale markets, the real wage indices would be biased. However, if changes in wholesale prices were broadly similar within regions, as suggested by Rothenberg's (1992) analysis of farm prices in New England, any such biases would be small.

Because I can measure only prices for commodities included in Cole (1938), the number of goods included in the indices is small, and certain important goods must therefore be omitted. It is necessary, therefore, to proxy certain classes of goods (e.g., meat) by one or two products, which may introduce biases. By far the most important missing commodity is housing. In effect, the indices assume that the relative price of housing did not change over the period, although there is evidence to the contrary (see below; and Margo 1996).

The price indices are shown in appendix table 3A.8. In general, the new indices trace out well-known patterns in antebellum prices. The price level fell from the early 1820s to the early 1830s, rose in the mid-1830s, declined steeply in the early 1840s, and then increased more or less continuously until the Civil War. Overall, the trend in price level was either flat or slightly downward from the 1820s to the 1850s, except in the Midwest, where the trend was upward.

Real wage indices are computed by dividing the nominal wage series by the price indices, after indexing the nominal series at their 1860 values. As defined, these show real wage growth within regions but are *not* adjusted for differences in levels across regions (for this purpose, see chap. 5). Annual values and five-year and decadal averages of the indices' values are reported in appendix tables 3A.9–3A.11.

In the Northeast, real wage growth was relatively sluggish between the 1820s and the 1830s. Growth, however, was much greater comparing the 1840s to the 1830s. Indeed, the average level of real wages was higher in the 1840s than in the 1850s—that is, real wages fell in the Northeast be-

tween the 1840s and the 1850s. Overall, however, real wages were higher on the eve of the Civil War than in the 1820s, regardless of occupation group.

Real wage patterns in the Midwest were broadly similar to those in the Northeast, with a few important exceptions. Real wages increased from the 1820s to the 1830s for unskilled laborers, although they fell for white-collar workers. For all three occupation groups, real wages rose significantly from the 1830s to the 1840s, but, as in the Northeast, the 1850s was a decade of falling real wages. Unskilled laborers and white-collar workers ended the antebellum period with higher levels of real wages than in the 1820s, but the real wages of artisans barely increased at all over the four-decade period.

The real wages of common laborers in the South Atlantic states fell from the 1820s to the 1830s, while those of artisans remained constant. The real wages of both groups rose in the 1840s as in other regions and then declined in the 1850s. White-collar wages in the South Atlantic states rose sharply from the 1820s to the 1840s and, like those of the other occupation groups, fell in the 1850s.

Real wages in the South Central region followed patterns similar to those in the Northeast. Real wage growth was sluggish in the 1830s, except for white-collar workers. As in the other regions, the South Central states witnessed substantial real wage growth in the 1840s and saw real wages decline in the 1850s.

Table 3.3 presents long-run growth rates for the new series, as identified with the coefficient of a regression of the log real wage on a linear trend. Several important findings are evident from table 3.3. First, growth rates were generally positive—that is, real wages grew over the antebellum period. Second, growth rates varied across occupations. In general, real wages grew most rapidly for white-collar workers. Third, real wage growth varied across regions, more so for artisans than for unskilled laborers and white-collar workers. In particular, both the South Atlantic and the Midwestern states stand out as regions where artisans experienced relatively little increase in real wages over the period 1820–60.

Table 3.3 **Long-Run Growth Rates of Real Wages, 1821–60 (% per year)**

	Common Laborer	Artisan	White Collar
Northeast	1.28	1.18	1.57
Midwest	.71	−.07	.87
South Atlantic	.97	.24	1.12
South Central	.85	.66	1.44

Source: See the text.

Note: Growth rate is coefficient (β) of time trend in regression of log real wage: $\ln w = \alpha + \beta T + \varepsilon$.

3.3.1 Biases in the Price Deflators: Wholesale versus Retail Prices in the Long Run

The construction of all real wage series is subject to biases. Important potential sources of bias in this case are the price deflators. As described earlier, the price deflators are constructed from regional data on wholesale prices. Regional data are clearly necessary because antebellum price trends varied across regions (Berry 1943). However, from a theoretical perspective, retail prices would be preferable to wholesale prices.

The use of wholesale instead of retail prices could impart biases in short-run movements in real wages if, for example, retail prices were less volatile than wholesale prices. I defer discussion of this issue to chapter 7. Here, my concern is whether any biases are imparted to the long-run growth rates.

Bias would occur if long-run trends in wholesale prices did not match trends in retail prices. A prima facie case can be made that differences in such trends existed. Technical change that caused improvements in the quality and especially the distribution of finished goods, particularly manufactured goods such as shoes and clothing, would not be reflected in my price deflators (Sokoloff 1986a).[19] Fuel prices are generally proxied in my indices by the wholesale price of coal, even though wood was widely used as a fuel and wood and coal prices diverged in the long run (Goldin and Margo 1992b; David and Solar 1977). The wholesale prices pertain to markets in major urban areas. Favorable movements in the retail terms of trade, however, could have been especially significant for the antebellum rural population, owing to improvements in transportation (Taylor 1951).

Because of the paucity of retail price data for the antebellum period, it is difficult to get a precise handle on the magnitude of the bias. Some sense of the magnitude can be gleaned, however, by making use of a retail index constructed by Lebergott (1964). Lebergott's index pertains to five items—textiles, shoes, rum, coffee, and tea—and covers the period 1800–1860. Three of the items—tea, textiles, and shoes—show declines in retail prices over the period 1830–60 relative to wholesale price movements. If Lebergott's prices for these three goods are substituted for the corresponding wholesale prices in my Northeastern index and the real wage index recomputed, real wages grow by about 6 percent more overall than indicated by the original index.[20]

3.3.2 Biases in the Price Deflators: Housing Prices

The price deflators used in this chapter suffer from the omission of housing prices. The implicit assumption is that, over the period 1821–60, the relative price of housing did not change in any region. The omission is necessary because the Cole (1938) collection of wholesale prices contains no information on the price of housing.

Existing housing price indices for the antebellum period are deficient in that they either are not true price indices or do not extend back far enough in the period to be of use. Adams (1975) and David and Solar (1977) constructed indices of new construction costs, but such indices are of limited usefulness because the supply of housing is dominated by the stock, not the flow (of new construction). Hoover (1960; see also Coelho and Shepherd 1974) produced a true price index from rent quotations contained in the Weeks Report, but these indices begin in 1851.[21]

In Margo (1996), I used newspaper advertisements to compute a rental price index for New York City over the period 1830–60. Data on approximately one thousand advertisements were culled from various newspapers. The advertisements were sufficiently rich in detail that it was possible to estimated hedonic regressions controlling for the (reported) characteristics of the unit along with its location in the metropolitan area. Although the papers used (such as the *New York Times*) served a middle-class clientele, a wide variety of housing quality was represented in the sample.

Like the wage regressions in this chapter, the housing price regressions included dummy variables for years or groups of years, making it possible to construct a hedonic price index. Separate indices were computed for units located in Manhattan and other (non-Manhattan) locations (e.g., Brooklyn).

According to the Manhattan index, housing prices rose during the 1830s, then fell sharply during the early 1840s. From 1843 to 1860, rents rose by nearly 57 percent, with most of the increase occurring before the mid-1850s. Except for the early to mid-1850s, when prices advanced more rapidly in the city, the non-Manhattan index mimicked the Manhattan index in terms of price movements.

Decadal averages of the Manhattan index show a 20 percent increase in the rental price of housing from the 1830s to the 1850s. Using the Northeastern price deflator developed in this chapter as the numeraire, the relative price of housing increased by 26.1 percent over the period. My results for New York City, therefore, suggest that the relative price of housing was *not* constant before the Civil War.

To examine the effect of including housing prices in the price deflator, I incorporate the Manhattan index into the Northeastern price index. The revised price deflator (COL) is

$$\ln \mathrm{COL} = \alpha_n \ln p_h + (1 - \alpha_h) p_n,$$

where p_i is the goods-specific price index (h = housing, n = nonhousing), and α_h is the budget share for housing. I assume a budget share of α_h = 0.29 (29 percent [see Margo 1996, 621]).

Decadal averages of the revised Northeastern deflator show a slight rise (1.7 percent) from the 1830s to the 1850s, compared with a decline if hous-

ing costs are ignored. Consequently, allowing for housing costs would reduce real wage growth in the Northeast, compared with the series presented in this chapter. However, the upward bias is relatively small, about 7 percent—or about the same order of magnitude as the downward bias imparted by failing to use retail rather than wholesale prices.

3.4 Conclusion

This chapter has presented new estimates of nominal and real wages for the antebellum period. The estimates pertain to three occupation groups and four census regions, a significant expansion of information over previous scholarly attempts, which have pertained to fewer occupations and to specific locations, mostly in the Northeast. Comparisons with previously constructed nominal series suggest that the new estimates are superior, particularly for the pre-1840 period. Newly constructed price deflators are used to convert the nominal estimates into indices of real wages. These indices reveal that real wages generally rose over the antebellum period, but there were significant differences in rates of growth across occupations, regions, and subperiods.

Appendix 3A

Table 3A.1 **Regressions of Nominal Wages, Northeast**

	Artisan	Common Laborer–Teamster	Clerk
Variable	β	β	β
Constant	.568	.171	1.025
	(20.850)	(4.188)	(11.740)
Fort location:			
Upstate New York	.011	−.071	−.123
	(.642)	(−1.931)	(−2.407)
Philadelphia	−.017	.117	.139
	(−.805)	(4.071)	(5.578)
Carlisle, Pa.	−.157	.026	−.282
	(−8.342)	(.691)	(−4.306)
Pittsburgh	−.042	−.511	−.742
	(−.728)	(14.813)	(−22.795)
Southern New England	.136	−.044	−.394
	(5.791)	(−.743)	(−11.100)
Northern New England	.343	.364	−.702
	(18.530)	(5.751)	(−11.243)
Worker and job characteristics:			
High	.355	.651	.485
	(24.754)	(3.582)	(17.457)
Low	−.479	N.A.	−.370
	(−20.540)		(−7.338)
Paid monthly	−.177	−.079	−.183
	(−10.115)	(4.118)	(−2.815)
Season:			
Spring	.058	−.120	.007
	(3.441)	(−3.862)	(.127)
Summer	.023	−.014	.026
	(1.594)	(−.475)	(.524)
Fall	.041	−.008	.024
	(2.803)	(−.291)	(.491)
Occupation:			
Mason	.111		
	(12.571)		
Painter-plasterer	.047		
	(3.340)		
Blacksmith	.023		
	(1.327)		
Teamster		.078	
		(3.223)	
Foragemaster			−.103
			(−1.785)
Inspector			.013
			(.341)
Year:			
1820	−.166		−.171
	(−3.028)		(−1.739)

(continued)

Table 3A.1 (continued)

	Artisan	Common Laborer–Teamster	Clerk
1821	−.581	−.334	−.205
	(−7.021)	(−3.325)	(−2.440)
1822	−.353	−.452	−.514
	(−4.730)	(−4.780)	(−5.867)
1823	−.285	−.366	−.445
	(−2.498)	(−3.574)	(−4.995)
1824	−.404	−.368	−.413
	(−3.904)	(−3.724)	(−4.723)
1825			−.389
			(−4.884)
1826			−.496
			(−6.646)
1825–26	−.422	−.306	
	(−5.666)	(−5.379)	
1827	−.308	−.410	−.450
	(−4.304)	(−6.004)	(−5.645)
1828	−.356	−.485	−.481
	(−7.753)	(−7.464)	(−4.817)
1829	−.398	−.442	−.332
	(−12.021)	(−5.385)	(−3.711)
1830	−.446	−.462	−.425
	(−12.662)	(−4.645)	(−3.133)
1831	−.427	−.522	−.419
	(−5.440)	(−7.828)	(−5.010)
1832	−.398	−.407	−.375
	(−7.373)	(−6.382)	(−4.910)
1833	−.377	−.417	−.380
	(−7.716)	(−5.585)	(−4.763)
1834	−.272	−.246	−.380
	(−6.030)	(−2.924)	(−4.763)
1835	−.396	−.248	−.378
	(−7.057)	(−2.849)	(−4.712)
1836	−.461	−.288	−.382
	(−11.549)	(−3.098)	(−5.080)
1837	−.386	−.103	−.208
	(−9.026)	(−1.325)	(−2.834)
1838	−.252	−.214	−.294
	(−11.304)	(−4.283)	(−3.819)
1839	−.198	−.294	−.158
	(−8.356)	(−6.428)	(−2.403)
1840	−.256	−.477	−.176
	(−10.463)	(−10.157)	(−2.575)
1841	−.244	−.292	−.243
	(−10.066)	(−6.157)	(−3.782)
1842	−.344	−.257	−.209
	(−13.900)	(−4.997)	(−2.931)
1843	−.291	−.178	−.090
	(−10.422)	(−3.251)	(−1.200)
1844	−.398		−.196
	(−13.787)		(−2.995)
1844–45		−.112	
		(−2.572)	

Table 3A.1 (continued)

	Artisan	Common Laborer–Teamster	Clerk
1845	−.211		−.188
	(−4.882)		(−2.413)
1846	−.268	−.176	−.259
	(−8.471)	(−4.617)	(−4.105)
1847	−.237	−.349	−.126
	(−4.786)	(−5.798)	(−1.954)
1848	−.292	−.054	−.168
	(−8.373)	(.698)	(−1.915)
1849	−.210	−.155	−.173
	(−3.096)	(−1.456)	(−1.261)
1850	−.235	−.146	−.154
	(−6.205)	(−2.799)	(−2.327)
1851	−.286	−.228	−.001
	(−7.682)	(−1.898)	(−.009)
1852		−.127	−.017
		(−1.647)	(−.147)
1852–53	−.210		
	(−3.338)		
1853		−.135	−.052
		(−1.247)	(−.565)
1854		−.081	.014
		(−1.084)	(.176)
1854–55	−.109		
	(−3.370)		
1855		−.042	.057
		(.750)	(.888)
1856	−.006	−.004	.086
	(−.162)	(−.064)	(1.034)
1857	.005	.018	.052
	(.215)	(.512)	(.831)
1858	.034	−.154	.068
	(1.248)	(4.171)	(1.013)
1859	.040	.025	−.052
	(1.433)	(.773)	(−.751)
N	4,335	4,341	2,630
R^2	.606	.569	.812

Note: Artisan: constant term represents an ordinary carpenter, hired on a daily basis without rations in the winter at a fort in or near New York City in 1860. Common laborer–teamster: constant term represents a common laborer hired on a daily basis without rations at a fort in or near New York City in 1860. Clerk: constant term represents an ordinary clerk hired on a daily basis without rations in the winter at a fort in or near New York City in 1860. N.A. = not applicable.

Table 3A.2 **Regressions of Nominal Wages, Midwest**

	Artisan	Common Laborer–Teamster	Clerk
Variable	β	β	β
Constant	.911	.297	.760
	(30.400)	(11.900)	(5.209)
Fort location:			
Cincinnati	−.096	−.004	−.140
	(−1.786)	(−.054)	(−2.573)
Detroit	−.335	.036	−.385
	(−10.290)	(1.008)	(−10.811)
Michigan (other than Detroit)	−.198	.136	−.166
	(−8.161)	(1.892)	(−1.130)
Iowa-Wisconsin-Minnesota	−.090	.234	−.418
	(−4.703)	(7.187)	(−7.031)
Fort Leavenworth, Kans.	−.142	.266	−.028
	(−7.709)	(13.188)	(−.631)
Kansas (other than Fort Leavenworth)	−.050	.207	.142
	(−2.187)	(5.735)	(1.411)
Worker or job characteristics:			
High	.441	N.A.	.502
	(20.365)		(8.564)
Low	−.385	N.A.	−.679
	(−21.426)		(−7.505)
Paid monthly	−.117	−.392	.069
	(−7.614)	(−19.614)	(.694)
Season:			
Spring	.005	−.004	.007
	(.259)	(.235)	(.092)
Summer	−.010	−.017	.057
	(−.576)	(−1.023)	(.798)
Fall	−.019	.043	−.012
	(−1.005)	(2.447)	(.162)
Occupation:			
Mason	.026		
	(2.075)		
Painter-plasterer	.028		
	(1.530)		
Blacksmith	.058		
	(4.608)		
Teamster		−.061	
		(−5.933)	
Foragemaster			−.089
			(−1.404)
Year:			
1820	N.A.	N.A.	−.421
			(−3.423)
1821	N.A.	N.A.	−.432
			(−3.207)
1821–22	−.270		
	(−3.345)		
1822		N.A.	−.474
			(−2.933)

Table 3A.2 (continued)

	Artisan	Common Laborer–Teamster	Clerk
1823		−.681	−.442
		(−4.684)	(−2.929)
1824		−.430	−.535
		(−5.154)	(−3.703)
1823–26	−.397		
	(−5.789)		
1825		−.612	−.381
		(−6.883)	(−2.399)
1826			−.363
			(−2.538)
1826–27		−.580	
		(−4.994)	
1827			−.443
			(−3.061)
1827–29	−.151		
	(−3.926)		
1828		−.432	−.311
		(−3.583)	(−1.960)
1829		−.432	−.384
		(−3.583)	(−2.718)
1830	−.165	−.433	−.429
	(−2.785)	(−3.448)	(−3.412)
1831	−.047	−.432	−.585
	(−.789)	(−3.583)	(−4.893)
1832	−.068	−.436	−.411
	(−.877)	(−4.021)	(−3.346)
1833	−.161		−.407
	(−4.212)		(−3.442)
1833–34		−.220	
		(−4.465)	
1834	−.170		−.297
	(−3.354)		(−2.464)
1835		−.207	−.434
		(−2.822)	(−3.812)
1835–36	−.228		
	(−3.092)		
1836		−.425	−.468
		(−4.905)	(−4.107)
1837	.108	.040	−.296
	(2.281)	(1.323)	(−2.544)
1838	−.106	−.248	−.233
	(−2.115)	(−2.624)	(−1.944)
1839	−.208	−.038	−.227
	(−7.540)	(−1.583)	(−2.034)
1840	−.208	−.291	−.327
	(−6.603)	(−6.412)	(−2.869)
1841	−.261	−.411	−.348
	(−9.129)	(−11.186)	(−3.111)
1842	−.341	−.273	−.310
	(−9.948)	(−5.442)	(−2.638)
1843	−.511	−.305	−.124
	(−14.808)	(−8.144)	(−.959)

(continued)

Table 3A.2 (continued)

	Artisan	Common Laborer–Teamster	Clerk
1844	−.420		−.156
	(−13.335)		(−1.262)
1844–45		−.384	
		(−11.925)	
1845	−.350		−.133
	(−8.739)		(−.940)
1846	−.535	−.372	−.081
	(−15.398)	(−8.262)	(−.674)
1847	−.402	−.400	−.236
	(−9.843)	(−7.290)	(−2.059)
1848	−.335	−.268	
	(−8.857)	(−5.238)	
1849	−.236		
	(−5.983)		
1848–49			−.111
			(−1.003)
1849–50		−.229	
		(−8.991)	
1850	−.258		−.124
	(−8.922)		(−1.046)
1851	−.127		.101
	(−3.352)		(.794)
1851–52		−.215	
		(−7.316)	
1852	−.150		.060
	(−2.961)		(.465)
1853	−.093	−.218	−.094
	(−3.238)	(−8.504)	(−.783)
1854	−.074	−.095	−.081
	(−2.434)	(−3.833)	(−.734)
1855	−.035	−.090	−.141
	(−1.148)	(−3.250)	(−1.316)
1856	−.032	−.111	−.077
	(−1.307)	(−5.327)	(−.563)
1857	.026	−.021	−.021
	(.909)	(−.925)	(.202)
1858	−.005	−.015	−.033
	(−.190)	(−.708)	(−.334)
1859	−.006	.021	−.212
	(−.216)	(1.062)	(−1.289)
N	4,482	7,691	1,752
R^2	.561	.374	.714

Note: Artisan: constant term represents an ordinary carpenter, hired on a daily basis without rations during the winter at a fort at or near St. Louis in 1860. Common laborer–teamster: constant term represents a common laborer hired on a daily basis without rations in the winter at a fort at or near St. Louis in 1860. Clerk: constant term represents an ordinary clerk hired on a daily basis without rations in the winter at a fort at or near St. Louis in 1860. N.A. = not applicable.

Table 3A.3 **Regressions of Nominal Wages, South Atlantic States**

	Artisan	Common Laborer–Teamster	Clerk
Variable	β	β	β
Constant	.660	.099	.369
	(5.661)	(1.408)	(2.969)
Fort location:			
Baltimore	−.178	.440	.137
	(−6.767)	(11.763)	(2.313)
Georgia	.038	.419	.129
	(1.334)	(12.874)	(2.095)
North Carolina	−.087	−.008	N.A.
	(−2.723)	(−.125)	
South Carolina	.046	.060	.217
	(1.714)	(1.548)	(3.814)
Florida	.207	.336	.201
	(8.837)	(10.131)	(3.173)
Worker or job characteristics:			
High	.416	.511	.703
	(29.254)	(10.352)	(11.451)
Low	−.720	−.709	N.A.
	(−35.572)	(−9.762)	
Slave	−.135	−.048	N.A.
	(−5.036)	(−.860)	
Paid monthly	.009	−.332	N.A.
	(.317)	(−14.573)	
Season			
Spring	−.009	.016	−.056
	(−.433)	(.479)	(−.533)
Summer	−.008	−.008	.027
	(−.408)	(−.233)	(.288)
Fall	.040	−.086	.036
	(1.701)	(−2.508)	(.397)
Occupation:			
Mason	.027		
	(1.866)		
Painter-plasterer	.033		
	(1.633)		
Blacksmith	.087		
	(3.224)		
Teamster		−.108	
		(−5.290)	
Other white collar			−.228
			(−4.459)
Year:			
1821–23			−.251
			(−1.645)
1822–23	−.210		
	(−1.780)		
1823–26		−.316	
		(−3.529)	
1824	−.373		−.366
	(−3.174)		(−2.516)

(*continued*)

Table 3A.3 (continued)

	Artisan	Common Laborer–Teamster	Clerk
1825			−.123
			(−.757)
1826			−.164
			(−1.041)
1825–26	−.221		
	(−1.794)		
1827	−.140	−.304	−.214
	(−1.162)	(−3.423)	(−1.559)
1828	−.232	−.310	−.247
	(−1.918)	(−3.306)	(−1.615)
1829	−.133		−.275
	(−1.118)		(−1.614)
1829–30		−.417	
		(−4.685)	
1830–31	−.115		
	(−.956)		
1830–32			−.351
			(−2.390)
1831–32		−.433	
		(−5.469)	
1832–34	−.108		
	(−.914)		
1833–34		−.499	−.179
		(−7.046)	(−1.175)
1835	−.062	−.492	−.245
	(−.524)	(−6.604)	(−1.638)
1836	−.020	−.230	−.085
	(−.146)	(−3.021)	(−.610)
1837–39	−.177		
	(−1.358)		
1837		−.137	−.028
		(−1.812)	(−.208)
1838		−.236	.029
		(−3.242)	(.215)
1839		−.215	.087
		(−2.457)	(.665)
1840			.035
			(.274)
1841			−.097
			(−0.756)
1840–41	−.175	−.297	
	(−1.372)	(−3.818)	
1842	−.155	−.496	−.153
	(−1.316)	(−6.103)	(−1.103)
1843	−.194	−.484	
	(−1.650)	(−5.645)	
1844–46	−.201	−.453	
	(−1.699)	(−5.888)	
1843–47			.081
			(.635)
1847	−.309	−.233	
	(−2.288)	(−3.152)	

Table 3A.3 (continued)

	Artisan	Common Laborer–Teamster	Clerk
1848–49	−.254	−.256	
	(−2.086)	(−3.290)	
1848–50			−.054
			(−.410)
1850		−.261	
		(−3.527)	
1850–51	−.248		
	(−2.077)		
1851			.016
			(.113)
1851–53		−.304	
		(−2.369)	
1852–53			.065
			(.277)
1852–55	−.223		
	(−1.894)		
1854			−.011
			(−.079)
1855			−.014
			(−0.096)
1854–55		−.200	
		(−2.319)	
1856	−.194	−.053	.046
	(−1.554)	(−.636)	(.337)
1857	−.007		−.001
	(−.049)		(−.009)
1858	−.115		−.036
	(−.960)		(−.245)
1859	−.060		−.049
	(−.472)		(−.185)
1857–59		.035	
		(.378)	
Slave × 1831–40	−.250	−.062	
	(−5.691)	(−.996)	
Slave × 1841–50	−.023	−.040	
	(−.339)	(−.629)	
Slave × 1851–60	−.098	−.179	
	(−1.881)	(−1.791)	
N	3,319	3,208	1,611
R^2	.788	.588	.490

Note: Artisan: constant term represents an ordinary carpenter hired on a daily basis without rations during the winter at Fort Monroe, Va., in 1860. Common laborer–teamster: constant term represents an ordinary carpenter hired on a daily basis without rations during the winter at Fort Monroe, Va., in 1860. Slave = 1 if the person was a slave, 0 otherwise. Clerk: constant term represents an ordinary clerk hired on a monthly basis without rations during the winter at Fort Monroe, Va., in 1860. N.A. = not applicable. Other white collar = 1 if person held white-collar occupation other than clerk.

Table 3A.4 **Regressions of Nominal Wages, South Central States**

	Artisan	Common Laborer–Teamster	Clerk
Variable	β	β	β
Constant	.868	.558	1.135
	(16.499)	(27.521)	(5.327)
Fort location:			
Baton Rouge	.134	−.397	−.369
	(5.834)	(−30.684)	(−8.559)
Arkansas	−.119	−.321	−.256
	(−4.385)	(−27.480)	(−6.380)
Kentucky	−.227	−.255	−.349
	(−7.361)	(−9.917)	(−3.468)
Tennessee	−.568	.036	−.031
	(−8.956)	(1.315)	(−.299)
Alabama-Mississippi	.090	−.268	−.089
	(1.880)	(−8.477)	(.580)
Worker or job characteristics:			
High	.450	.340	.279
	(21.356)	(10.044)	(5.590)
Low	−.568	−.398	−.608
	(−23.909)	(−18.430)	(−9.912)
Slave	−.202	−.043	
	(−4.912)	(−.915)	
Paid monthly	−.136	−.194	−.046
	(−6.884)	(−19.166)	(−.649)
Rations	N.A.	−.046	N.A.
		(−2.404)	
Season:			
Spring	−.047	.004	−.011
	(−1.926)	(.279)	(−.131)
Summer	.001	−.004	.055
	(.062)	(−.315)	(.759)
Fall	−.001	−.016	−.013
	(.049)	(−1.173)	(−.182)
Occupation:			
Mason	−.004		
	(−.233)		
Painter-plasterer	.022		
	(.910)		
Blacksmith	.041		
	(1.945)		
Teamster		.010	
		(1.041)	
Other white collar			−.181
			(−4.101)
Year:			
1820	−.330	−.439	−.343
	(−3.152)	(−10.257)	(−1.543)
1821		−.388	−.443
		(−9.901)	(−1.898)
1821–22	−.279		
	(−3.584)		
1822			−.380
			(−1.578)
1823	−.201		−.502
	(−2.082)		(−2.167)
1824			−.535
			(−2.119)

Table 3A.4 (continued)

	Artisan	Common Laborer–Teamster	Clerk
1822–24		−.353	
		(−10.972)	
1824–25	−.239		
	(−3.476)		
1825–26		−.404	−.364
		(−5.511)	(−1.615)
1827			−.353
			(−1.616)
1826–28	−.018		
	(−.332)		
1827–29		−.191	
		(−4.148)	
1828–29			−.232
			(−1.150)
1829–30	−.242		
	(−4.080)		
1830		−.174	−.129
		(−1.896)	(−.599)
1831		−.217	−.436
		(−2.748)	(−2.073)
1831–32	−.231		
	(−3.690)		
1832		−.218	−.451
		(−2.762)	(−2.154)
1833		−.243	
		(−3.317)	
1834		−.208	
		(−4.027)	
1833–34	−.025		−.360
	(−.511)		(−1.841)
1835	.021	−.267	−.400
	(.448)	(−7.902)	(−2.013)
1836	.014	−.138	−.322
	(.226)	(−5.872)	(−1.668)
1837	−.052	−.158	−.008
	(−.658)	(−3.586)	(−.039)
1838	−.268	−.409	.002
	(−5.843)	(−14.825)	(.012)
1839	−.080	−.200	.163
	(−1.741)	(−8.683)	(.872)
1840		−.217	
		(−2.748)	
1841		−.141	
		(−5.678)	
1840–41	.094		−.072
	(1.943)		(−.391)
1842	−.014	−.158	−.109
	(.295)	(−6.989)	(−.548)
1843	−.264	−.180	−.224
	(−6.050)	(−7.710)	(−1.196)
1844	−.309	−.344	
	(−5.976)	(−3.763)	
1844–45			−.172
			(−.901)
1845–46	−.242	−.437	
	(−5.644)	(−18.518)	
1846			−.103
			(−.518)

(continued)

Table 3A.4 (continued)

	Artisan	Common Laborer–Teamster	Clerk
1847	−.139	−.481	
	(−2.247)	(−13.339)	
1848		−.399	
		(−11.845)	
1847–48			−.028
			(−.139)
1848–49	−.160		
	(−2.907)		
1849		−.253	
		(−5.631)	
1849–50			−.139
			(−.726)
1850	−.217	−.254	
	(−4.161)	(−10.154)	
1851		−.142	−.103
		(−6.446)	(−.525)
1852		−.036	−.069
		(−1.083)	(−.359)
1853		−.070	
		(−1.094)	
1851–53	−.096		
	(−2.199)		
1854	−.047	−.122	
	(−.741)	(−5.670)	
1853–54			−.073
			(−.386)
1855	−.027	−.116	−.099
	(−.311)	(−5.129)	(−.505)
1856	−.107	−.129	−.137
	(−1.618)	(−6.918)	(−.736)
1857	−.015	−.106	.200
	(−.274)	(−5.382)	(.945)
1858	.105	−.067	
	(2.137)	(−3.405)	
1859	.049	−.004	
	(1.181)	(.092)	
1858–59			−.010
			(−.052)
Slave × 1831–40		−.123	
		(−1.931)	
Slave × 1841–50		.080	
		(1.469)	
Slave × 1851–60		−.052	
		(−.908)	
N	3,342	6,263	1,298
R^2	.656	.649	.705

Note: Artisan: the constant term represents an ordinary carpenter hired on a daily basis without rations during the winter in New Orleans in 1860. Common laborer–teamster: the constant term represents a common laborer hired on a daily basis without rations during the winter in New Orleans in 1860. Clerk: the constant term represents an ordinary clerk hired on a daily basis without rations during the winter in New Orleans in 1860. Slave = 1 if slave, 0 otherwise. Other white collar =1 if occupation is other than clerk, 0 if clerk. N.A. = not applicable.

Table 3A.5 **Average Nominal Daily Wages, Common Labor: 1821–60 ($)**

	Northeast	Midwest	South Atlantic	South Central
1821	.78	N.A.	N.A.	.74
1822	.69	N.A.	N.A.	.76
1823	.75	.51	N.A.	.77
1824	.75	.65	N.A.	.75
1825	.78	.54	.64	.74
1826	.77	.56	.65	.76
1827	.72	.59	.65	.83
1828	.67	.65	.65	.91
1829	.70	.65	.60	.91
1830	.69	.65	.58	.92
1831	.65	.65	.58	.88
1832	.72	.65	.56	.88
1833	.72	.75	.55	.86
1834	.85	.81	.54	.89
1835	.85	.82	.54	.84
1836	.89	.66	.70	.95
1837	.98	1.04	.77	.94
1838	.88	.78	.70	.73
1839	.81	.96	.71	.90
1840	.67	.75	.67	.88
1841	.81	.66	.61	.95
1842	.84	.76	.54	.94
1843	.91	.74	.54	.92
1844	.95	.71	.55	.78
1845	.95	.69	.56	.73
1846	.91	.69	.63	.70
1847	.77	.67	.70	.68
1848	1.03	.77	.69	.74
1849	.93	.79	.68	.85
1850	.94	.80	.68	.85
1851	.87	.81	.67	.95
1852	.96	.81	.65	1.06
1853	.95	.81	.68	1.02
1854	1.00	.91	.71	.97
1855	1.04	.92	.76	.98
1856	1.08	.90	.84	.96
1857	1.11	.98	.87	.99
1858	.93	.99	.91	1.02
1859	1.11	1.02	.90	1.09
1860	1.09	1.00	.88	1.10
			Five-Year Averages	
1821–25	.75	.57	.64	.75
1826–30	.71	.62	.63	.87
1831–35	.76	.74	.55	.87
1836–40	.85	.84	.71	.88
1841–45	.89	.71	.56	.86
1846–50	.92	.74	.68	.76
1851–55	.96	.85	.69	1.00
1856–60	1.06	.98	.88	1.03
			Decadal Averages	
1821–30	.73	.60	.63	.81
1831–40	.81	.79	.63	.88
1841–50	.91	.73	.62	.81
1851–60	1.01	.92	.78	1.02

Source: See the text.
Note: N.A. = not applicable.

Table 3A.6 **Average Nominal Daily Wages, Artisans: 1821–60 ($)**

	Northeast	Midwest	South Atlantic	South Central
1821	1.00	N.A.	N.A.	1.67
1822	1.26	1.31	N.A.	1.75
1823	1.35	1.25	1.42	1.84
1824	1.20	1.20	1.27	1.79
1825	1.18	1.22	1.41	1.75
1826	1.22	1.40	1.52	2.02
1827	1.32	1.45	1.61	2.21
1828	1.26	1.50	1.47	2.02
1829	1.21	1.49	1.62	1.85
1830	1.15	1.48	1.64	1.77
1831	1.17	1.67	1.65	1.78
1832	1.21	1.63	1.65	1.88
1833	1.23	1.49	1.66	2.08
1834	1.37	1.47	1.70	2.23
1835	1.42	1.42	1.74	2.30
1836	1.52	1.56	1.81	2.28
1837	1.44	1.95	1.67	2.13
1838	1.40	1.57	1.55	1.72
1839	1.47	1.42	1.55	2.08
1840	1.39	1.35	1.55	2.33
1841	1.41	1.24	1.56	2.38
1842	1.27	1.24	1.58	2.22
1843	1.34	1.05	1.52	1.73
1844	1.21	1.15	1.52	1.65
1845	1.45	1.23	1.51	1.73
1846	1.37	1.02	1.43	1.83
1847	1.42	1.17	1.36	1.96
1848	1.34	1.25	1.41	1.93
1849	1.46	1.38	1.44	1.88
1850	1.42	1.35	1.44	1.81
1851	1.35	1.54	1.45	1.92
1852	1.42	1.50	1.46	2.04
1853	1.49	1.59	1.47	2.09
1854	1.57	1.62	1.49	2.14
1855	1.67	1.69	1.50	2.19
1856	1.78	1.69	1.52	2.02
1857	1.80	1.79	1.84	2.22
1858	1.86	1.74	1.65	2.50
1859	1.87	1.74	1.74	2.36
1860	1.80	1.75	1.85	2.25
	Five-Year Averages			
1821–25	1.20	1.25	1.37	1.76
1826–30	1.23	1.46	1.57	1.97
1831–35	1.28	1.54	1.68	2.05
1836–40	1.44	1.57	1.63	2.11
1841–45	1.34	1.18	1.54	1.94
1846–50	1.40	1.23	1.42	1.88
1851–55	1.50	1.59	1.47	2.08
1856–60	1.82	1.74	1.72	2.27
	Decadal Averages			
1821–30	1.22	1.37	1.50	1.87
1831–40	1.36	1.56	1.66	2.08
1841–50	1.37	1.21	1.48	1.91
1851–60	1.66	1.67	1.60	2.18

Source: See the text.

Note: N.A. = not applicable.

Table 3A.7 Average Nominal Monthly Wages, White-Collar Labor: 1821–60 ($)

	Northeast	Midwest	South Atlantic	South Central
1821	40.07	34.63	N.A.	44.34
1822	29.42	33.20	34.06	47.20
1823	31.53	34.28	32.15	41.77
1824	32.56	31.24	30.35	40.44
1825	33.34	36.44	38.68	45.32
1826	29.97	37.10	37.14	48.17
1827	31.37	34.25	35.33	48.52
1828	30.43	39.08	34.17	52.63
1829	35.30	36.33	33.25	51.79
1830	32.16	34.73	32.01	60.70
1831	32.35	29.72	30.81	44.62
1832	33.81	35.36	33.00	43.99
1833	33.64	35.51	35.34	46.71
1834	33.64	39.63	35.78	47.47
1835	33.71	34.56	34.24	46.29
1836	33.57	33.40	40.18	50.05
1837	39.95	39.67	42.57	68.50
1838	36.66	42.25	45.03	69.19
1839	42.00	42.51	47.71	81.24
1840	41.25	38.46	45.33	69.47
1841	38.58	37.66	39.73	63.49
1842	39.91	39.12	37.55	61.88
1843	44.96	47.12	40.60	55.20
1844	40.44	45.64	43.90	57.15
1845	40.76	46.70	47.46	59.45
1846	37.97	49.19	45.89	62.23
1847	43.37	42.13	44.37	65.50
1848	41.58	45.48	42.90	61.74
1849	41.38	47.12	41.47	61.33
1850	42.17	47.12	42.95	60.84
1851	49.14	59.01	44.48	62.23
1852	48.36	56.64	45.95	64.46
1853	46.70	48.56	45.54	64.25
1854	49.88	49.19	43.29	63.62
1855	52.08	46.33	43.16	62.51
1856	53.61	49.39	45.80	60.21
1857	51.82	52.23	43.72	84.30
1858	52.65	51.61	42.19	64.18
1859	46.70	43.15	41.65	68.57
1860	49.19	53.34	43.76	69.61
			Five-Year Averages	
1821–25	33.39	33.96	33.81	43.81
1826–30	31.83	36.29	34.38	52.36
1831–35	33.42	34.96	33.83	45.82
1836–40	38.68	39.26	44.16	67.69
1841–45	40.93	43.25	41.85	59.43
1846–50	41.28	46.21	43.52	62.33
1851–55	49.23	51.95	44.48	63.42
1856–60	50.79	49.94	43.42	69.40
			Decadal Averages	
1821–30	32.61	35.13	34.13	48.09
1831–40	36.05	37.11	39.00	56.75
1841–50	41.11	44.73	42.69	60.88
1851–60	50.01	50.95	44.10	66.41

Source: See the text.

Note: N.A. = not applicable.

Table 3A.8 Price Deflators, 1821–60

	Northeast	Midwest	South Atlantic	South Central
1821	112.0	87.6	103.2	96.3
1822	120.8	94.1	112.9	109.0
1823	108.5	80.5	104.8	98.1
1824	105.7	78.4	98.4	91.9
1825	108.9	80.8	100.1	99.9
1826	98.3	69.3	89.4	88.1
1827	96.9	68.3	89.2	85.4
1828	94.4	70.2	85.8	88.6
1829	91.8	80.3	84.0	87.0
1830	89.7	74.0	86.1	79.2
1831	92.5	74.8	81.9	81.0
1832	96.6	80.8	86.6	85.2
1833	102.4	84.7	92.4	88.1
1834	96.2	81.4	94.3	85.3
1835	109.6	97.8	105.8	100.0
1836	125.3	115.7	132.1	122.0
1837	117.8	108.9	115.8	111.0
1838	112.1	100.0	109.3	110.0
1839	118.1	105.1	112.1	104.2
1840	96.6	79.4	86.7	86.4
1841	89.5	70.9	83.2	83.4
1842	77.6	55.7	63.5	72.7
1843	70.7	58.2	62.4	59.2
1844	69.5	63.7	65.0	62.0
1845	77.6	66.7	71.3	63.5
1846	78.0	68.9	75.9	65.0
1847	94.1	84.0	88.2	80.8
1848	79.1	64.7	66.7	64.9
1849	82.0	71.0	74.0	71.0
1850	88.5	79.0	83.6	81.0
1851	85.2	79.5	85.7	77.4
1852	90.4	83.8	85.2	76.2
1853	99.7	88.7	88.5	82.7
1854	108.9	92.4	89.9	84.0
1855	113.0	105.4	101.7	99.1
1856	117.4	109.6	100.1	100.0
1857	121.9	120.6	112.5	109.0
1858	103.8	93.0	93.8	95.0
1859	105.3	104.2	97.0	97.6
1860	100.0	100.0	100.0	100.0
	Five-Year Averages (1856–60 = 100)			
1821–25	101.4	79.9	103.3	98.7
1826–30	85.9	68.6	86.4	85.4
1831–35	90.7	79.5	91.7	87.6
1836–40	103.9	96.5	110.5	106.4
1841–45	70.2	59.7	68.7	68.0
1846–50	76.8	69.7	77.2	72.3
1851–55	90.6	84.4	89.7	83.6
1856–60	100.0	100.0	100.0	100.0
	Decadal Averages (1851–60 = 100)			
1821–30	98.2	80.6	100.0	100.3
1831–40	102.1	88.1	106.6	105.6
1841–50	77.2	64.7	76.9	76.4
1851–60	100.0	100.0	100.0	100.0

Table 3A.9 Real Wage Indices, 1821–60: Common Labor, by Region

	Northeast	Midwest	South Atlantic	South Central
1821	63.9	N.A.	N.A.	69.9
1822	52.4	N.A.	N.A.	63.4
1823	63.4	63.4	N.A.	71.4
1824	65.0	82.9	N.A.	74.2
1825	65.7	66.8	72.6	67.4
1826	71.8	80.8	82.7	78.4
1827	68.2	86.4	82.8	88.4
1828	65.1	92.6	86.1	93.3
1829	69.9	80.9	81.2	95.1
1830	70.6	87.8	76.5	105.6
1831	64.4	86.9	80.5	98.8
1832	68.4	80.4	73.4	93.9
1833	64.6	88.5	67.6	88.8
1834	81.1	99.5	65.1	94.8
1835	71.2	83.8	58.0	76.4
1836	65.2	57.0	60.2	70.8
1837	76.3	95.5	75.6	77.0
1838	72.0	78.0	72.7	60.4
1839	62.9	91.3	72.0	78.5
1840	63.7	94.5	87.8	92.6
1841	83.0	93.1	83.3	103.6
1842	99.4	136.4	96.7	117.6
1843	118.1	127.1	98.4	141.2
1844	125.5	111.5	96.2	114.4
1845	112.4	103.4	89.2	104.6
1846	107.1	101.1	94.3	97.8
1847	75.0	79.8	90.1	76.5
1848	119.5	119.0	117.5	103.7
1849	104.0	111.3	104.5	108.9
1850	97.4	101.3	92.5	95.4
1851	93.7	101.9	88.8	111.6
1852	97.5	96.7	86.7	126.5
1853	87.5	91.3	87.3	112.1
1854	84.2	98.5	89.8	105.0
1855	84.4	87.3	85.0	89.9
1856	84.4	82.1	95.4	87.3
1857	83.5	81.3	87.9	82.6
1858	82.2	106.5	110.2	97.6
1859	96.7	97.9	105.5	101.5
1860	100.0	100.0	100.0	100.0
	Five-Year Averages (1856–60 = 100)			
1821–25	69.4	75.9	72.7	73.8
1826–30	77.4	91.6	82.0	98.3
1831–35	78.3	93.9	69.1	96.5
1836–40	76.1	89.0	73.8	80.9
1841–45	120.5	122.2	92.9	124.0
1846–50	112.6	109.4	100.0	102.8
1851–55	100.1	101.7	87.7	116.2
1856–60	100.0	100.0	100.0	100.0
	Decadal Averages (1851–60 = 100)			
1821–30	73.4	85.0	85.8	79.6
1831–40	77.2	90.7	76.1	82.0
1841–50	116.5	114.8	101.8	104.9
1851–60	100.0	100.0	100.0	100.0

Source: See the text

Note: N.A. = No estimate available.

Table 3A.10 Real Wage Indices, 1821–60: Artisans, by Region

	Northeast	Midwest	South Atlantic	South Central
1821	50.1	N.A.	N.A.	77.1
1822	57.9	79.6	N.A.	71.4
1823	69.1	88.7	73.3	83.4
1824	63.1	87.5	69.7	86.6
1825	60.2	86.3	76.1	77.9
1826	69.9	115.4	91.9	101.9
1827	75.6	121.4	97.5	115.0
1828	74.2	122.1	92.7	101.4
1829	73.2	106.0	104.3	94.5
1830	71.2	114.3	102.9	99.4
1831	70.3	127.5	108.9	97.7
1832	69.6	115.2	103.0	98.1
1833	66.7	100.5	97.1	104.9
1834	79.1	103.2	97.5	116.2
1835	72.0	83.0	88.9	102.2
1836	67.4	77.0	74.0	83.0
1837	67.9	102.3	78.0	85.3
1838	69.4	89.7	76.7	69.5
1839	69.2	77.2	74.8	88.7
1840	79.9	97.1	96.7	119.9
1841	87.5	100.0	101.3	126.9
1842	90.0	127.3	134.5	135.8
1843	105.2	103.1	131.7	129.9
1844	96.7	103.1	126.5	118.2
1845	103.9	105.4	114.4	121.1
1846	97.6	84.5	101.8	125.0
1847	83.8	79.6	83.8	107.8
1848	94.1	110.4	114.2	132.2
1849	98.9	111.1	105.1	117.7
1850	89.2	97.6	93.1	99.3
1851	88.0	110.7	91.5	110.2
1852	87.3	102.3	92.6	119.0
1853	83.0	102.5	89.8	112.3
1854	80.1	100.2	89.5	113.2
1855	82.1	91.7	79.7	98.2
1856	84.2	88.1	82.1	89.8
1857	82.0	84.8	88.4	90.6
1858	99.5	106.9	95.1	116.9
1859	98.7	95.4	97.0	107.5
1860	100.0	100.0	100.0	100.0
	Five-Year Averages (1856–60 = 100)			
1821–25	64.7	90.0	78.9	78.5
1826–30	78.2	121.9	105.8	101.5
1831–35	77.0	111.4	107.3	102.8
1836–40	76.2	93.3	86.5	88.4
1841–45	104.3	113.4	131.5	125.2
1846–50	99.8	101.7	107.6	115.3
1851–55	90.5	106.7	95.8	109.5
1856–60	100.0	100.0	100.0	100.0
	Decadal Averages (1851–60 = 100)			
1821–30	75.0	104.2	97.8	85.9
1831–40	80.4	99.0	98.9	91.3
1841–50	107.1	104.0	122.1	114.8
1851–60	100.0	100.0	100.0	100.0

Source: See the text.

Note: N.A. = No estimate available.

Table 3A.11 Real Wage Indices, 1821–60: Clerks, by Region

	Northeast	Midwest	South Atlantic	South Central
1821	72.8	74.1	N.A.	66.1
1822	49.5	66.1	68.9	62.2
1823	59.1	79.9	70.1	61.2
1824	62.6	74.7	70.5	63.2
1825	62.3	84.5	88.3	65.2
1826	62.0	100.4	95.0	78.5
1827	65.8	94.0	90.5	81.6
1828	65.6	104.4	91.0	85.3
1829	78.2	84.8	90.5	85.5
1830	72.9	88.0	84.9	110.1
1831	71.1	74.5	86.0	79.1
1832	71.1	82.1	87.1	74.2
1833	66.8	78.6	87.4	76.2
1834	71.1	91.3	86.7	80.0
1835	62.5	66.3	73.9	66.5
1836	54.5	54.1	69.5	58.9
1837	68.9	68.3	84.0	88.6
1838	66.5	79.2	94.1	90.4
1839	72.3	75.8	97.3	112.0
1840	86.9	90.8	119.5	115.5
1841	87.6	99.6	109.1	109.4
1842	104.5	131.6	135.1	122.3
1843	129.3	151.7	148.7	134.0
1844	118.3	134.4	154.3	132.4
1845	106.8	131.2	152.2	134.5
1846	99.0	133.8	138.2	137.5
1847	93.7	94.0	115.0	116.5
1848	106.8	131.5	146.9	136.7
1849	102.6	124.4	128.1	124.1
1850	96.8	111.8	117.3	107.9
1851	117.3	139.1	118.6	115.5
1852	108.7	126.7	123.2	121.5
1853	95.2	102.6	117.6	111.6
1854	93.1	99.8	110.0	108.8
1855	93.7	82.4	97.0	90.6
1856	92.8	84.5	104.6	86.5
1857	86.4	81.2	88.8	111.1
1858	103.1	104.0	102.8	97.1
1859	90.1	77.6	98.1	100.9
1860	100.0	100.0	100.0	100.0
	Five-Year Averages (1856–60 = 100)			
1821–25	64.8	84.8	75.3	64.1
1826–30	72.9	105.4	91.4	89.0
1831–35	72.5	87.8	85.2	75.9
1836–40	73.9	82.3	93.9	93.9
1841–45	115.7	145.0	141.5	127.6
1846–50	105.6	133.1	130.6	125.6
1851–55	107.5	123.1	114.6	110.6
1856–60	100.0	100.0	100.0	100.0
	Decadal Averages (1851–60 = 100)			
1821–30	66.4	85.3	78.5	72.7
1831–40	70.5	76.3	83.5	80.6
1841–50	106.6	124.7	126.8	120.3
1851–60	100.0	100.0	100.0	100.0

Source: See the text.

Note: N.A. = No estimate available.

Table 3A.12 **Alternative Nominal Wage Estimates: Northeast (excludes Pittsburgh) ($)**

	Common Laborers (Daily)	Artisans (Daily)	White-Collar Workers (Monthly)
1821	.73	.98	37.12
1822	.72	1.26	29.99
1823	.72	1.35	33.08
1824	.72	1.20	33.08
1825	.78	1.18	34.33
1826	.81	1.22	30.42
1827	.78	1.32	34.33
1828	.71	1.26	35.68
1829	.68	1.21	39.04
1830	.69	1.15	32.63
1831	.66	1.17	36.79
1832	.70	1.21	35.59
1833	.69	1.23	35.40
1834	.84	1.37	35.40
1835	.84	1.42	35.40
1836	.84	1.52	34.50
1837	.98	1.44	42.11
1838	.88	1.40	38.01
1839	.80	1.47	43.71
1840	.66	1.39	43.42
1841	.82	1.41	41.19
1842	.83	1.27	40.88
1843	.90	1.34	45.86
1844	.95	1.21	40.11
1845	.92	1.45	40.50
1846	.90	1.38	37.53
1847	.87	1.42	44.26
1848	.89	1.34	38.98
1849	.91	1.46	41.23
1850	.94	1.42	42.17
1851	.87	1.35	49.37
1852	.96	1.42	48.94
1853	.95	1.49	46.80
1854	1.00	1.57	47.54
1855	1.04	1.72	51.35
1856	1.08	1.77	46.69
1857	1.11	1.80	49.33
1858	.94	1.86	47.45
1859	1.12	1.87	46.88
1860	1.10	1.68	49.59
		Five-Year Averages	
1821–25	.73	1.19	33.52
1826–30	.73	1.23	34.42
1831–35	.75	1.28	35.72
1836–40	.83	1.44	40.35
1841–45	.88	1.34	41.71
1846–50	.90	1.40	40.83
1851–55	.96	1.51	48.80
1856–60	1.07	1.82	47.99
		Decadal Averages	
1821–30	.73	1.21	33.97
1831–40	.79	1.36	38.04
1841–50	.89	1.37	41.27
1851–60	1.02	1.67	48.40

Note: Estimates based on hedonic regressions that exclude observations from Pittsburgh. Estimates for 1835–37 for skilled artisans are adjusted as in table 3A.6 above (see the text).

Table 3A.13 Alternative Nominal Wage Estimates: Midwest (includes Pittsburgh) ($)

	Common Laborers (Daily)	Artisans (Daily)	White-Collar Workers (Monthly)
1821	.73	N.A.	36.13
1822	.54	1.20	31.35
1823	.57	1.19	30.49
1824	.63	1.18	29.77
1825	.56	1.22	32.61
1826	.51	1.30	32.73
1827	.50	1.40	29.04
1828	.51	1.50	30.77
1829	.60	1.49	32.38
1830	.62	1.48	32.79
1831	.53	1.66	27.16
1832	.62	1.63	32.44
1833	.71	1.49	32.61
1834	.76	1.47	35.54
1835	.76	1.42	31.80
1836	.63	1.56	30.41
1837	1.02	1.95	36.76
1838	.73	1.57	38.80
1839	.95	1.42	39.44
1840	.73	1.42	36.13
1841	.65	1.35	34.04
1842	.76	1.24	37.27
1843	.73	1.05	48.31
1844	.70	1.15	47.80
1845	.69	1.23	48.44
1846	.70	1.03	47.51
1847	.68	1.17	41.52
1848	.77	1.25	47.73
1849	.80	1.38	49.79
1850	.80	1.35	47.12
1851	.81	1.54	56.83
1852	.81	1.50	55.02
1853	.80	1.59	48.81
1854	.91	1.62	50.36
1855	.91	1.68	50.03
1856	.89	1.69	57.57
1857	.99	1.79	59.26
1858	.99	1.73	59.44
1859	1.03	1.73	46.36
1860	1.00	1.74	57.41
		Five-Year Averages	
1821–25	.61	1.20	32.07
1826–30	.55	1.43	31.54
1831–35	.68	1.53	31.91
1836–40	.81	1.58	36.31
1841–45	.71	1.20	43.17
1846–50	.75	1.24	46.73
1851–55	.85	1.59	52.21
1856–60	.98	1.74	56.01
		Decadal Averages	
1821–30	.58	1.32	31.81
1831–40	.75	1.56	34.11
1841–50	.73	1.22	44.95
1851–60	.92	1.67	54.11

Note: Estimates based on hedonic regressions that include observations from Pittsburgh (see the text).