Staff Papers Series

Staff Paper P90-72

December 1990

PATTERNS OF AGRICULTURAL DEVELOPMENT IN THE UNITED STATES

Barbara J. Craig
Philip G. Pardey

Department of Agricultural and Applied Economics

University of Minnesota
Institute of Agriculture, Forestry and Home Economics
St. Paul, Minnesota 55108

PATTERNS OF AGRICULTURAL DEVELOPMENT IN THE UNITED STATES

Barbara J. Craig
Philip G. Pardey*

*Barbara Craig is an Assistant Professor, Department of Economics, Oberlin College. Philip Pardey is jointly an Assistant Professor, Department of Agricultural and Applied Economics, University of Minnesota and Senior Research Officer, International Service for National Agricultural Research, The Hague.

Staff Papers are published without formal review within the Department of Agricultural and Applied Economics.

PATTERNS OF AGRICULTURAL DEVELOPMENT IN THE UNITED STATES

Barbara J. Craig
Philip G. Pardey

In a classic study of agricultural development, Hayami and Ruttan (1971 and 1985) described the historical development of agriculture in 44 countries as illustrated by changes in labor and land productivity.[1] As was evident in their study, development patterns differed in ways that reflected underlying differences in relative factor endowments. Countries with relatively low land to labor endowments followed a path of development in agriculture which featured rapid advancement in the productivity of land. The fact that the converse was true of countries in which labor was relatively scarce gave credence to the notion of innovation induced by demand. Agents seem to be led by relative prices to economize on the use of relatively scarce resources.

Within any comparative study of units as large as countries, much is lost in aggregation. In the United States, in particular, regional differences in agricultural production are quite pronounced as are relative factor endowments. This study uses a newly developed annual data set for the 48 contiguous states to analyze the same partial productivity measures that Hayami and Ruttan studied in the international context.

A distinct advantage of our data set is that it is sufficiently detailed to allow the construction of multidimensional Divisia indices of real quantities for gross agricultural output as well as both land and labor inputs. The advantage of the Divisia output indices used here is that they are less likely than Laspeyres output indices to confuse changes in the

mix of output associated with shifts in relative prices with changes in the real aggregate agricultural output. Multidimensional Divisia input indices also provide a systematic way of accounting for changes in quality of land and labor inputs over time as well as for differences in input mixes across states.[2] In the results reported below, we contrast these quality-adjusted Divisia indices with more standard input aggregates to examine the systematic biases in partial productivity measures that have not been adjusted to reflect temporal and cross-sectional heterogeneity.

Data Set

In constructing measures of land, labor and output for each of the 48 states in this study, data were drawn from a variety of sources. Personal income and corresponding age/education characteristics of the rural population were taken from the U.S. *Census of the Population* in each decade from 1940 through 1980. State-level data on characteristics of operators, farm numbers, and the types and quantities of agricultural land in farms were drawn from the *Agricultural Census* beginning in 1949. Annual data on the average value of different land types, and the prices and quantities of agricultural commodities were compiled from the annual *Agricultural Statistics* published by the USDA. Hours worked by hired and family workers as well as annual average wages of hired workers were taken from various issues of USDA's *Farm Labor* and *Agricultural Statistics* publications. Information on agricultural land not in farms, primarily federally owned grazing lands in the west, were drawn from Daugherty (1989). Finally, data on annual rents and values of agricultural land were constructed using data found in Doll and Jones (1982), Jones and Barnard (1985),

various issues of the USDA's *Agricultural Land Values and Markets* as well as USDA *Farm Real Estate Market Developments* reports.

For each state, a quantity index was constructed for gross agricultural output for each year from 1949 to 1985 with 1980 as the base year.[3] The output index was a Tornqvist approximation of the Divisia index calculated using prices received by farmers in that state since, as described in Craig and Pardey (1990a), the use of national unit value prices lead to serious biases when measuring rates of change in real output at the state level.

Two indices of labor in agriculture were constructed. One is based on total unadjusted hours of labor. The second index, which adjusts for quality, is a Tornqvist Divisia index that aggregates 32 distinct types of labor within each state (Craig and Pardey 1990b). We have differentiated between hours worked by hired workers, family members, and 30 classes of farm operators with different age and education profiles. This allows us to capture the fact that the composition of the rural population differs dramatically across regions and has changed significantly over time. In both indices, we incorporated data from the *Agricultural Census* on days worked off farm by farm operators to take into account the substantial but uneven shift toward part-time farming.

Two indices of land in agriculture were constructed as well. One is based on total acres in agriculture with no adjustment made for the different types of agricultural land. The quality-adjusted index is a Tornqvist Divisia index which aggregates three basic land types: pasture or rangeland, nonirrigated cropland and irrigated cropland. The price weights used in aggregation were annual state-level rents as described in greater detail in Craig and Pardey (1990c).

Output ratios for each state and year are found in appendices A and B. Those in appendix A use the Divisia output index but indices of input are the simple unweighted sums of hours and acres in agriculture. Series in appendix B are output ratios with quality-adjusted inputs. The time series reported in appendices A and B are state-specific in that each has the state's own 1980 output and input aggregates as a base. Consequently, these indices allow us to compare rates of change in productivity, but they are not scaled in a way that makes it possible to compare actual productivity levels across states.

To compare levels of ouput per acre and output per hour across states, the time series for each state were scaled according to levels of output, land, and hours in agriculture in 1980. The time series indices for output and inputs have already factored in the changing mix of commodities, acres, and hours over time, so we need only scale the base year for each state to reflect cross-sectional heterogeneity.

Output was scaled by the most obvious measure, total value of output in 1980 measured in base year dollars received by local farmers.[4] Land and labor indices were scaled in two ways. The unadjusted input indices were scaled by unadjusted totals of acres and hours in 1980. The resulting scaled output ratios are reported in appendix C. The quality-adjusted input indices were scaled by quality-adjusted 1980 total acres and hours; these are reported in appendix D.

Scaling land and labor to reflect input quality is tricky since, in the end, we want counts of comparable acres and hours in the base year. We would like the denominator of each partial productivity measure to be units of constant quality. The method we chose relies heavily on base year relative rents and relative wages to reflect the heterogeneity or

quality differences of inputs across states.

Nonirrigated cropland is taken to be the numeraire or representative acre, and its national average rent in 1980 is taken as a measure of the quality of a representative acre. Each state's base-year acres are then aggregated using the local rent for each type of agricultural land relative to this national average rent in 1980. An acre of pastureland which rents for a fraction of the representative acre's rent will therefore count as that same fraction of an acre when deriving the state total. The use of local relative rents to measure actual quality rests on the implicit assumption that rents reflect the marginal value of an acre of land in agriculture and thus are plausible weights for aggregating heterogeneous agricultural land.

In a similar way, a farm operator who completed high school and is between 45 and 54 years old is taken as the labor numeraire. The implicit wage of this representative operator in 1980 is used to reflect the quality of the typical hour input. The wages of other operator types, family members, and hired workers relative to our representative farm operator in 1980 are then used to scale their hours to yield a 1980 aggregate whose units can be interpreted as quality constant hours. If, for example, hired workers receive lower wages than this representative operator, their hours are discounted by their relative wages.

While we have state-specific wages for hired workers, we were constrained by data availability to construct an implicit wage series for farm operators which is identical across states. The use of such national operator wages amounts to assuming that, in 1980, operators with identical human capital characteristics faced the same opportunity costs in

all states. Given the relative ease with which labor can move -- at least in the 1980s -- both across states and between sectors in the economy, this assumption does not pose as many problems as would the use of a single series of national rents per land type. This scaling procedure still allows us to capture the fact that the 1980 labor force composition differs across states.

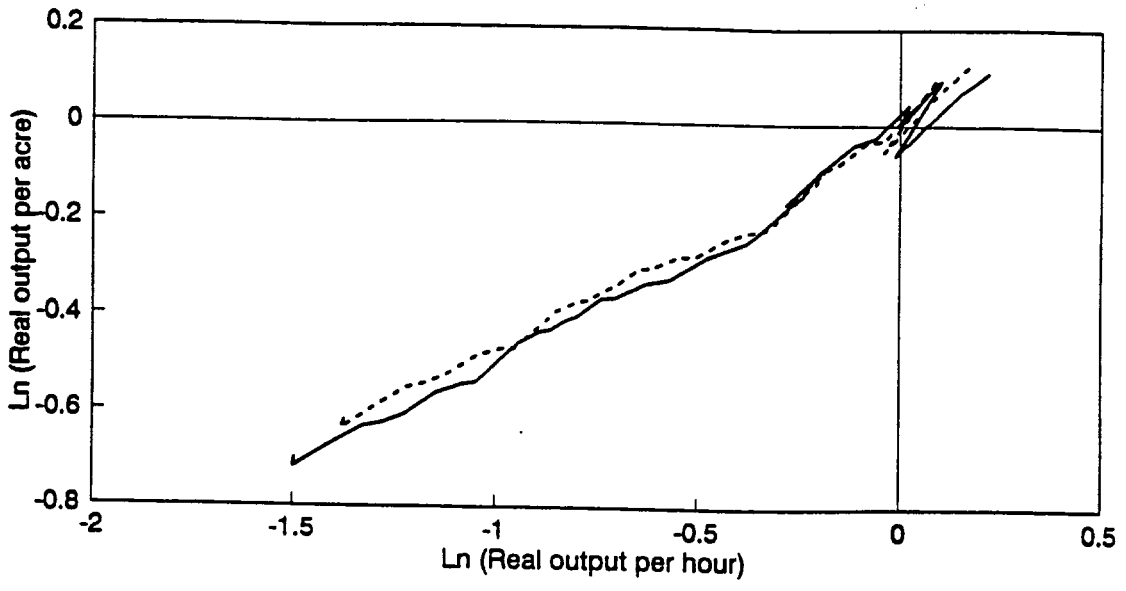
Regional Development Patterns

To understand the regional trends in land and labor productivity, we have adapted the graphical technique used by Hayami and Ruttan (1971, 1985) to describe the development of agriculture in an international context. In the figures 1 through 4 below, the logged ratios of output per acre and output per hour are graphed for the 48-state aggregate or regional subaggregates. The land measure is the corresponding stock of total acres of land in agriculture whether those acres are irrigated cropland, nonirrigated cropland, pastureland or rangeland. The labor measure is the total hours worked by operators and their family members as well as hired workers.

The dark arrows indicate the path of these two productivity measures, and the diagonals indicate constant factor ratios. As a region's productivity locus crosses a diagonal from left to right, it indicates an increase in the number of acres per hour in that region. The longer a productivity locus, the greater the *percentage* change in productivity in that region.

Using the unscaled (figure 1) or scaled (figure 2) partial productivity measures of the 48-state aggregate as a yardstick, we can discern some fairly obvious patterns of change.

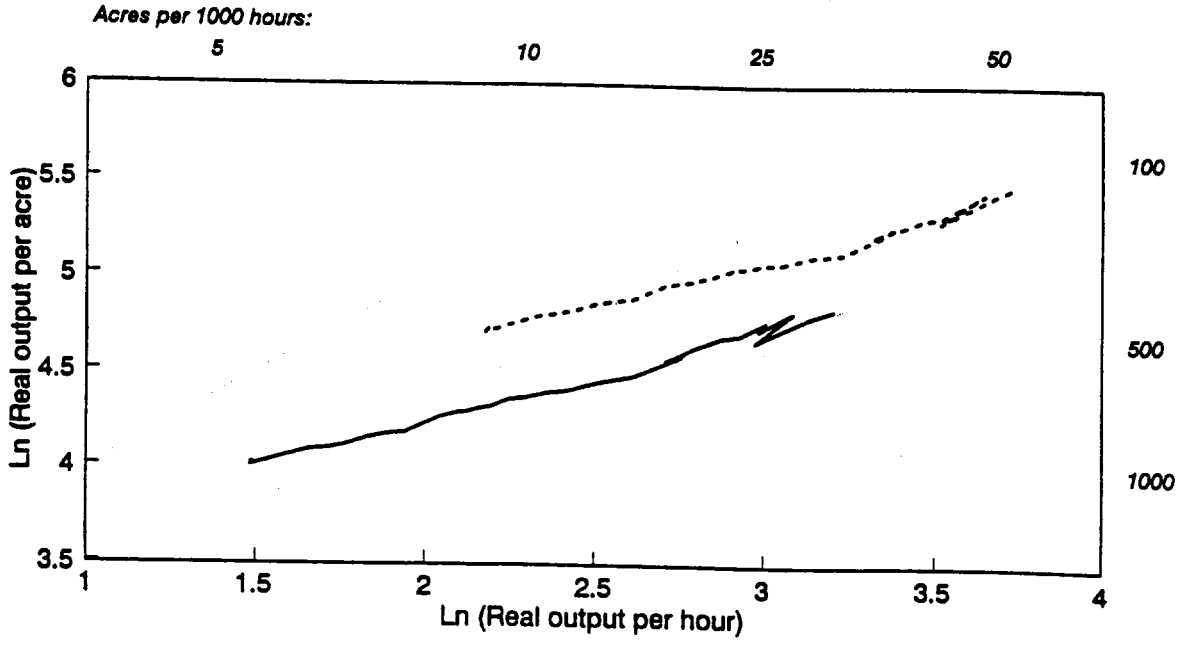
Figure 1: Unscaled productivity measures, 48-state aggregate, 1949-85



Legend: —— quality unadjusted; - - - - quality adjusted.

Source: Appendices A1 and A2 for quality unadjusted data and appendices B1 and B2 for quality-adjusted data.

Figure 2: Scaled productivity measures, 48-state aggregate, 1949-85



Legend: —— quality unadjusted; - - - - quality adjusted.

Source: Appendices C1 and C2.

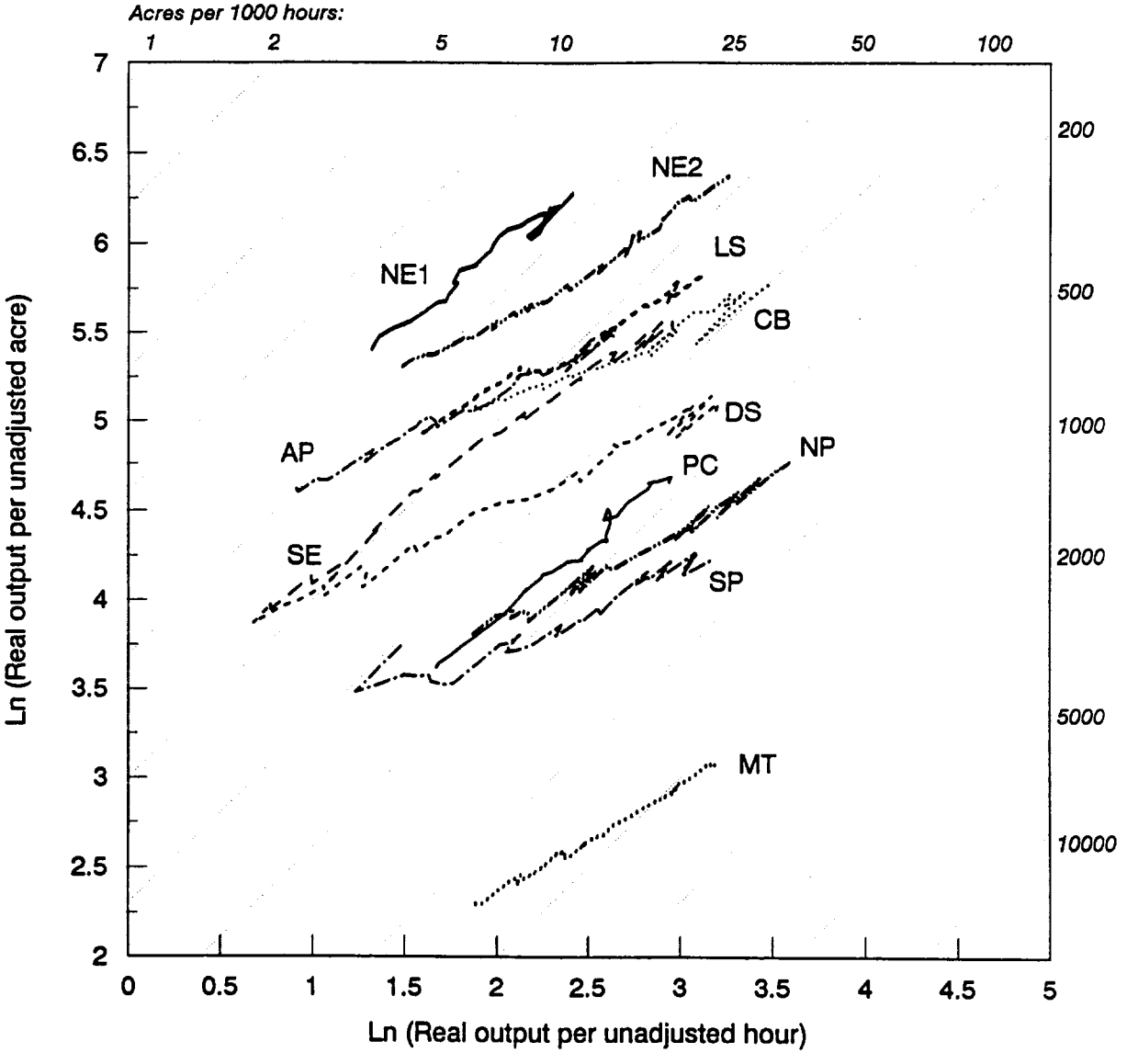
Over the period 1949 to 1985, increases in real output per acre and real output per hour have been fairly steady with productivity gains for labor outweighing the gains for land. Whether inputs are adjusted for quality or not, these measures reflect the trend of increasing land to labor ratios in agriculture. Both sets of productivity measures also indicate that this trend has slowed since the mid-1970s.

When we examine productivity changes using the index which is an aggregate over 48 states, the pattern of progress looks comfortingly smooth. The exception to this pattern is the abrupt fall in output per acre and hour in 1983 which can be attributed to the output impact of the PIK set-aside program.

When one examines the productivity measures of individual states, it becomes apparent that this smooth pattern of development is not reflected in all states even in a country in which technology and labor are relatively mobile. Figure 3 presents unadjusted partial productivity measures for each USDA production region and figure 4 presents the same measures when land and labor have been adjusted to reflect quality changes.[5] The smooth, steady productivity gains displayed by the 48-state aggregate is broadly representative of the development of agriculture in the midwestern and plains states, but states in the south, northeast and west display some fairly distinct patterns.

States in the USDA's Southeastern, Delta and Appalachian regions generally display much larger productivity gains over this period than does the US in aggregate. The productivity gains are especially dramatic for labor. Output per hour was much lower than the national average in the south in the immediate postwar period and yet there is virtually no difference in recent years. The large labor market adjustments that ensued in the late

Figure 3: Quality unadjusted land and labor productivity loci, 1949-85

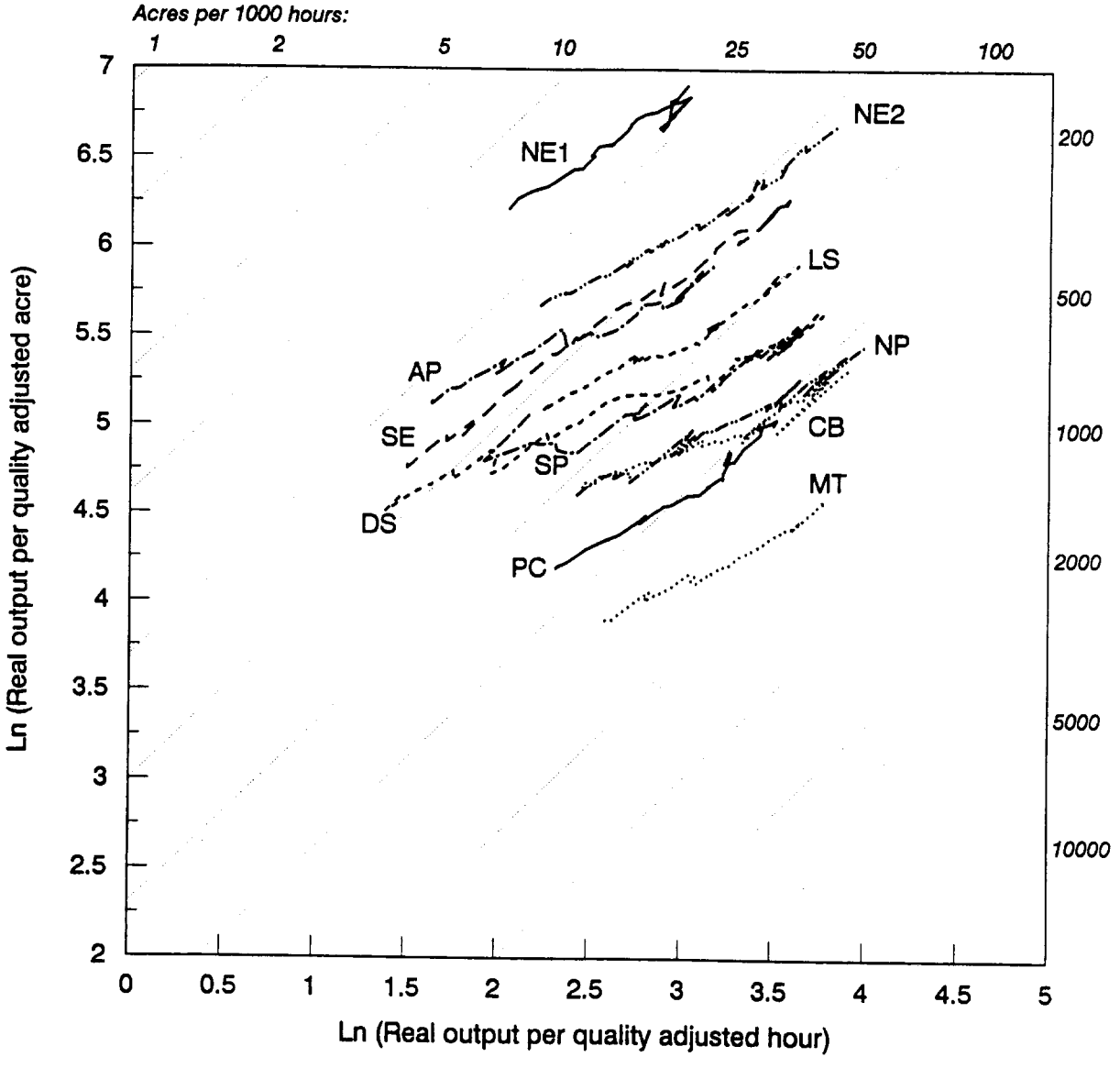


Legend: NE1 = Northeast 1; NE2 = Northeast 2; CB = Corn Belt; LS = Lake States; NP = Northern Plains; AP = Appalachian; SE = Southeast; DS = Delta States; SP = Southern Plains; MT = Mountain; PC = Pacific.

Source: Appendix C1 and C2.

Note: Diagonals represent constant land/labor ratios.

Figure 4: Quality adjusted land and labor productivity loci, 1949-85



Legend: NE1 = Northeast 1; NE2 = Northeast 2; CB = Corn Belt; LS = Lake States; NP = Northern Plains; AP = Appalachian; SE = Southeast; DS = Delta States; SP = Southern Plains; MT = Mountain; PC = Pacific.

Source: Appendix D1 and D2.

Note: Diagonals represent constant land/labor ratios.

1950s and early 1960s suggest that much of the change in labor productivity in the south can be attributed to labor leaving agriculture. The fact that labor productivity in the southern states has "caught up" even while labor productivity in general was steadily increasing leads us to suspect that the productivity patterns of labor are affected by the degree of integration of labor markets as well as the use of other inputs.

Florida's pattern of development is quite different from other states in the south in that output per acre has grown faster than output per hour. Florida and California are unique in the sample in that the labor input per acre has not declined. In both of these states hired workers -- whose wages are low by national standards -- account for a significant fraction of the hours worked on farms. On balance, the economic pressure in Florida appears to have favored change that is land rather than labor saving. An alternative interpretation is that it was less expensive to employ other inputs that increased the productivity of land than it was to improve the effectiveness of labor given the particular mix of commodities produced in Florida.

Several states in the USDA's Northeast and Mountain regions show much less change in both land and labor productivity than does the 48-state aggregate. Over this period agricultural productivity in Connecticut, Massachusetts, New Jersey, Rhode Island, Nevada, Utah and Wyoming changed very slowly. In fact, productivity of labor and land in both New Jersey and Rhode Island appear to have taken significant steps backward over a period of several years. There are data problems which could well explain these patterns. Several important crops in these two states are omitted in the output measure since it excludes such things as flowers and ornamental plants. Moreover, these products have become

increasingly important, particulary to New Jersey's commodity mix, over the time period analyzed here, so their omission is likely to bias downwards both productivity measures in the later part of the sample.

The smoothness of productivity changes at the national level is somewhat deceiving. It is quite clear that states which produce relatively few commodities display much more erratic patterns of change in productivity than do states with a more diversified commodity basket. States of the Northern and Southern Plains display erratic year to year shifts in measured output per acre and per hour. This does not reflect an underlying erratic pattern of land or labor use but rather the annual (largely weather-induced) variability of real output.

Effects of Quality Adjustment

Examination of the unscaled productivity measures allows us to discern the effect of quality adjustment on measured changes in productivity over time. The quality adjustment reduces measured productivity gains for both factors at the state and national level as evidenced by the shorter path of the quality-adjusted locus in figure 2. This is to be expected since the quality-adjusted land and labor indices were constructed in an attempt to measure comparable input units from year to year.

As acres of nonirrigated cropland are replaced over time with irrigated acres in the western states, and this is accounted for, then at least part of the probable increase in output will be attributed to the use of higher quality land instead of being counted as an increase in yield per acre of constant quality. Similarly, when an hour worked by hired labor is

replaced with an hour of more skilled operator labor, a quality-adjusted labor index will show an increase in total effective hours worked. Any concurrent increases in real output will be discounted to reflect the fact that some of the output change is properly attributed to changes in the quality of the input instead of reflecting solely increased output per hour of constant quality.

The effect of quality adjustment on measured productivity growth rates for the individual states is harder to discern from regional graphs, so we have summarized the growth rates in output per acre and output per hour in tables 1 and 2. The rates of change in these partial productivity measures are uniformly lowered across states when inputs are measured on a quality-adjusted basis as was exhibited by the aggregate productivity measures.

Quality adjustment of the labor and land inputs has its most dramatic effect in altering the measured partial productivity *levels*. As can be seen by comparing figures 3 and 4, the entire locus of each region is shifted when individual ratios are scaled to account for spatial differences in input quality.

As one might expect, the quality adjustment of land has its biggest impact on the measured productivity of western land. The quality adjustment reduces the number of acres counted in arid states to reflect the fact that the typical western acre is far less effective than the average national acre of nonirrigated cropland. Consequently the entire productivity locus is shifted up in figure 4 as compared with the corresponding locus in figure 3 for states whose average acre of land in agriculture is less effective than our numeraire acre. The only states whose measured output per acre declines when using quality-adjusted indices are

Table 1: *Period Average Growth Rates of Land Productivity*

	Unadjusted Acres			Quality Adjusted Acres		
	49-59	60-69	70-85	49-59	60-69	70-85
	%	%	%	%	%	%
Alabama	4.72	3.32	3.40	4.08	2.62	3.16
Arizona	3.21	3.17	2.35	2.90	3.00	2.51
Arkansas	4.63	4.24	1.87	3.77	3.19	2.19
California	3.35	2.98	3.29	2.68	2.46	2.84
Colorado	2.96	2.88	1.24	2.40	2.37	1.08
Connecticut	1.50	1.04	1.98	1.10	0.34	1.94
Delaware	2.55	2.05	2.47	2.51	1.97	2.43
Florida	5.10	4.69	1.51	4.88	4.51	1.71
Georgia	5.24	3.06	2.60	4.63	2.58	2.56
Idaho	3.48	3.48	3.87	2.61	2.77	3.39
Illinois	1.53	1.45	0.98	1.36	1.14	0.94
Indiana	1.93	2.28	1.63	1.78	1.94	1.46
Iowa	2.16	2.17	1.82	1.93	1.94	1.87
Kansas	2.75	2.47	1.38	2.38	2.01	0.80
Kentucky	2.13	1.65	2.11	1.78	1.33	2.12
Louisiana	3.06	2.69	1.56	2.49	1.94	1.48
Maine	4.16	2.66	1.76	3.70	2.28	1.38
Maryland	2.88	2.66	3.20	2.80	2.51	3.25
Massachusetts	0.98	-0.06	0.49	0.82	-0.07	0.46
Michigan	2.44	2.88	2.58	2.21	2.68	3.17
Minnesota	2.46	2.84	3.24	2.17	2.52	3.12
Mississippi	2.35	0.95	1.24	1.81	0.27	1.52
Missouri	1.71	1.48	0.99	1.26	1.10	0.93
Montana	1.54	1.43	2.74	1.14	1.12	2.43
Nebraska	2.73	2.71	2.52	2.00	1.68	1.52
Nevada	2.02	2.96	3.10	1.59	2.65	2.97
New Hampshire	2.87	1.24	2.65	1.93	0.89	2.85
New Jersey	-1.89	-3.12	0.86	-1.97	-3.25	0.59
New Mexico	2.45	2.56	2.02	2.20	2.43	2.15
New York	2.34	2.41	3.61	1.87	1.73	2.92
North Carolina	2.93	2.20	2.43	2.51	1.78	2.25
North Dakota	0.82	-0.10	3.04	0.64	-0.27	3.25
Ohio	2.23	3.18	1.77	1.87	2.64	1.53
Oklahoma	2.30	2.60	1.14	2.30	2.49	1.44
Oregon	2.17	2.19	3.40	1.83	2.09	3.32
Pennsylvania	2.51	2.54	3.55	2.27	2.26	3.51
Rhode Island	1.04	-0.57	2.30	0.64	-0.75	2.28
South Carolina	3.12	3.16	2.90	2.76	2.53	2.50
South Dakota	1.70	0.97	2.66	1.68	0.93	2.53
Tennessee	1.88	1.75	3.17	1.63	1.47	2.90
Texas	2.23	2.31	1.24	1.95	2.09	1.89
Utah	1.40	1.72	3.42	1.31	1.63	3.35
Vermont	2.88	1.74	2.14	1.94	1.28	2.37
Virginia	1.85	2.03	3.05	1.40	1.39	3.08
Washington	3.63	4.00	3.93	2.70	3.40	4.31
West Virginia	2.73	2.96	2.72	1.53	1.62	2.79
Wisconsin	2.20	2.49	3.24	1.78	2.05	3.09
Wyoming	1.27	0.90	1.04	0.99	0.77	1.00
48 STATES	2.28	2.21	2.00	1.98	1.87	1.95

Table 2: *Period Average Growth Rates of Labor Productivity*

	Unadjusted Acres			Quality Adjusted Acres		
	49-59	60-69	70-85	49-59	60-69	70-85
	%	%	%	%	%	%
Alabama	7.44	6.13	5.11	6.93	5.34	3.93
Arizona	4.00	3.68	1.85	3.88	3.46	1.51
Arkansas	7.60	5.52	3.82	7.11	4.91	2.88
California	3.01	2.59	3.48	3.05	2.59	2.97
Colorado	4.76	4.38	3.09	4.41	3.99	2.20
Connecticut	1.97	1.95	4.50	1.77	1.59	3.26
Delaware	5.36	4.48	3.62	4.98	3.99	3.08
Florida	3.76	4.04	1.08	3.82	3.87	0.74
Georgia	7.40	5.69	5.45	6.98	4.89	4.27
Idaho	4.21	4.50	4.28	4.08	4.16	3.83
Illinois	4.31	3.63	3.63	3.81	3.14	2.88
Indiana	4.56	3.93	3.49	4.02	3.37	2.72
Iowa	4.29	4.06	4.33	3.95	3.75	3.68
Kansas	4.65	3.61	1.82	4.43	3.44	1.60
Kentucky	4.34	3.91	3.00	3.93	3.33	2.24
Louisiana	6.72	6.10	3.37	6.14	5.07	2.40
Maine	4.65	2.96	0.54	4.47	2.69	0.03
Maryland	4.51	3.48	4.15	4.04	2.98	3.28
Massachusetts	1.53	0.73	2.12	1.41	0.54	0.67
Michigan	4.63	5.07	5.12	4.15	4.41	4.30
Minnesota	4.21	3.89	3.87	3.85	3.55	3.48
Mississippi	7.52	5.89	5.33	7.27	5.23	4.07
Missouri	4.31	3.58	2.90	3.73	2.90	1.77
Montana	3.45	3.53	3.88	2.90	2.85	3.15
Nebraska	4.66	4.19	4.13	4.40	3.94	3.58
Nevada	2.74	3.32	5.67	2.45	2.91	4.10
New Hampshire	2.96	1.62	-0.91	2.47	0.89	-1.47
New Jersey	0.23	-1.07	0.50	-0.09	-1.57	-0.41
New Mexico	4.70	3.95	2.89	4.38	3.50	1.76
New York	3.19	2.45	2.93	2.92	2.18	2.51
North Carolina	6.00	5.84	6.19	5.67	5.23	5.21
North Dakota	3.06	1.84	5.87	2.56	1.29	4.99
Ohio	4.53	4.91	4.84	4.02	4.26	3.34
Oklahoma	5.59	5.27	3.92	5.05	4.62	2.78
Oregon	3.53	3.61	4.42	3.16	2.97	2.86
Pennsylvania	3.88	3.24	5.37	3.58	2.99	4.39
Rhode Island	1.46	0.72	-0.16	1.22	0.34	-0.71
South Carolina	6.66	6.63	4.88	6.26	5.52	3.70
South Dakota	3.84	2.74	3.42	3.47	2.38	3.22
Tennessee	4.90	4.65	4.54	4.37	3.87	3.13
Texas	5.32	4.81	2.98	4.70	4.01	1.82
Utah	3.25	2.86	2.72	3.01	2.51	2.27
Vermont	3.80	2.73	1.48	3.35	2.26	1.03
Virginia	4.18	4.09	4.72	3.70	3.43	3.68
Washington	4.00	3.77	4.91	3.88	3.66	4.18
West Virginia	4.61	4.86	3.60	3.99	3.96	2.15
Wisconsin	3.76	3.42	3.70	3.29	2.93	3.13
Wyoming	3.10	3.22	3.94	2.69	2.66	2.63
48 STATES	4.75	4.15	3.64	4.33	3.65	2.86

those states in the upper midwest whose average acre of land in agriculture is superior to the national average as reflected in the much higher rents obtained for this land.

The effect of scaling the labor input is to shift the productivity locus for every state to the right. When we denominate the labor input in units of hours worked by our representative operator, we have chosen a numeraire that is evidently more effective than the average hour worked in agriculture for all states in our sample. The representative operator who completed high school and is between 45 and 54 years of age is, according to our annual income figures, near the peak of his/her annual earnings. Only a few operator classes earn more, and these operator types work fewer total hours per year than does our representative farmer.[6]

The quality adjustment of inputs also reduces cross-sectional differences in measured input ratios. In table 3 average unadjusted and quality adjusted land/labor ratios are reported for the individual states and the 48-state aggregate. While the aggregate ratios are hardly changed by quality adjustment, the dispersion of individual state ratios is greatly reduced. Densely populated states in the northeast still use many fewer acres per hour of labor input than the average, and the arid western plains and mountain states use many more acres per hour of labor than the average. However, the differences across states are much less pronounced when some attempt is made to measure both labor and land inputs in comparable units for all states.

Table 3: *Period Average Land to Labor Ratios Measured in Acres per Hour*

	Unadjusted acres and hours			Quality adjusted acres and hours		
	49-59	60-69	70-85	49-59	60-69	70-85
Alabama	.04	.06	.08	.04	.05	.07
Arizona	.68	.76	.87	.37	.44	.50
Arkansas	.06	.10	.12	.06	.11	.14
California	.09	.09	.08	.12	.13	.13
Colorado	.34	.42	.50	.13	.16	.20
Connecticut	.01	.01	.01	.01	.01	.01
Delaware	.02	.03	.05	.05	.07	.09
Florida	.11	.08	.08	.09	.08	.07
Georgia	.04	.05	.07	.04	.06	.07
Idaho	.31	.32	.35	.33	.38	.45
Illinois	.05	.07	.10	.17	.23	.30
Indiana	.04	.07	.08	.13	.19	.23
Iowa	.05	.07	.09	.17	.22	.27
Kansas	.15	.20	.23	.11	.15	.18
Kentucky	.03	.04	.05	.06	.08	.10
Louisiana	.07	.10	.15	.07	.11	.17
Maine	.02	.03	.03	.02	.03	.03
Maryland	.03	.03	.04	.04	.05	.06
Massachusetts	.01	.01	.01	.01	.01	.02
Michigan	.04	.04	.06	.05	.07	.08
Minnesota	.05	.06	.08	.09	.12	.14
Mississippi	.04	.06	.11	.03	.06	.12
Missouri	.06	.08	.11	.10	.14	.18
Montana	.56	.67	.87	.19	.23	.29
Nebraska	.13	.17	.21	.14	.18	.24
Nevada	4.25	4.89	4.98	1.59	1.92	1.94
New Hampshire	.03	.03	.03	.02	.02	.02
New Jersey	.01	.01	.02	.02	.02	.03
New Mexico	.75	1.06	1.35	.16	.23	.27
New York	.03	.04	.04	.03	.04	.04
North Carolina	.01	.02	.03	.02	.02	.04
North Dakota	.20	.26	.34	.16	.20	.24
Ohio	.04	.05	.06	.09	.12	.15
Oklahoma	.12	.19	.25	.08	.11	.14
Oregon	.28	.31	.39	.29	.36	.42
Pennsylvania	.02	.03	.03	.03	.03	.04
Rhode Island	.01	.01	.01	.01	.01	.02
South Carolina	.02	.03	.05	.02	.03	.05
South Dakota	.21	.28	.35	.12	.16	.19
Tennessee	.03	.04	.06	.04	.06	.08
Texas	.16	.24	.34	.07	.11	.14
Utah	.66	.88	1.06	.39	.52	.61
Vermont	.04	.05	.05	.03	.03	.04
Virginia	.03	.04	.05	.03	.05	.06
Washington	.13	.15	.15	.14	.17	.19
West Virginia	.05	.06	.07	.03	.03	.05
Wisconsin	.03	.04	.05	.05	.07	.08
Wyoming	1.07	1.21	1.61	.24	.28	.35
48 STATES	.09	.13	.17	.09	.13	.16

Summary

While the development pattern of agriculture in the United States taken as a whole is broadly representative of the midwestern states, there are some distinctly different regional patterns even in a country with relatively well-integrated markets for goods and factors. From 1949 to 1985, regional differences in the productivity of labor have been substantially eroded. Not surprisingly, measured differences in output per acre of land differ dramatically across states. These differences are narrowed but not eliminated when we attempt to adjust acres to account for quality differences.

Our results indicate that we are likely to overstate rates of partial productivity growth when we do not account for changes in the average quality of inputs. However, measurement errors are likely to be less important for measuring rates of change in output per acre or hour than in measuring actual levels of output per unit of input.

Footnotes

*The work reported here was supported by Interregional Hatch Project 6 (IR-6) funds made available to the Minnesota Agricultural Experiment Station. The authors thank Han Roseboom and Luis Macagno for their research assistance.

1. The stylized facts of Hayami and Ruttan were based on partial rather than total factor productivity measures. Contrary to the assertion of Christensen (1975), there is nothing intrinsically wrong with partial productivity measures. Whether dealing with total or partial factor productivity indices, care must *always* be exercised in their interpretation. Some, if not all, of the change in a particular factor's productivity may be attributable to increased usage of nonmeasured inputs. Nevertheless, the measured changes still provide useful information on the development process.

2. For a more complete discussion of multidimensional indices, see Craig and Pardey (1990a).

3. The gross output aggregate is calculated over a set of 48 commodities which account for approximately 90% of the value of total national agricultural output in the years of our sample. It nevertheless omits such things as flowers, ornamental plants, seeds and buffalos.

4. The most obvoius choice is almost never the only one, but to concentrate on the effects of quality adjustment on labor and land productivity measures, we do not explore alternative output scalars here. See Craig and Pardey (1990a) for a more detailed treatment of issues of scaling output measures.

5. For presentational purposes, output ratios were averaged over the states in the same USDA production region. These regions are comprised of states whose productivity patterns were not identical. In the Northeast and Pacific regions, the average hides substantial differences in productivity measures across states. For those interested in individual state comparisons, all of the data necessary is presented in the appendices.

6. Farm operators who earn more per hour in 1980 have either completed more years of schooling than has the representative farmer or are between the ages of 55 and 64 with at least as much schooling.

References

Christensen, Laurits R. "Concepts and Measurement of Agricultural Productivity," *Amer. J. Agr. Econ.* 57(1975):910-915.

Craig, Barbara J. and Philip G. Pardey. "Multidimensional Output Indices," University of Minnesota, Department of Agricultural and Applied Economics, Staff Paper Series, P90-63 (1990a).

Craig, Barbara J. and Philip G. Pardey. "Trends in Human Capital in U.S. Agriculture," University of Minnesota, Department of Agricultural and Applied Economics, manuscript (1990b).

Craig, Barbara J. and Philip G. Pardey. "Trends in Land Use in U.S. Agriculture," University of Minnesota, Department of Agricultural and Applied Economics, manuscript (1990c).

Daugherty, Arthur B. "U.S. Grazing Lands: 1950-82," USDA, ERS, Statistical Bulletin 771, Washington, D.C. (1989).

Doll, John P., and Richard Widdows. "A Comparison of Cash Rents and Land Values for Selected U.S. Farming Regions," in Paul D. Velde, Ed., USDA, ERS, NED Staff Report AGES820415, Washington, D.C. (1982)

Hayami, Yujiro and Vernon W. Ruttan. *Agricultural Development: an International Perspective*, Baltimore: The Johns Hopkins University Press, 1985.

Hayami, Yujiro and Vernon W. Ruttan. *Agricultural Development: an International Perspective* , Baltimore: The Johns Hopkins University Press, 1971.

Jones, John and Charles H. Barnard. "Farm Real Estate: Historical Series Data, 1950-85," USDA, ERS, Statistical Bulletin 738, Washington, D.C. (1985)

Appendix A.1: *Real Agricultural Output per Unadjusted Hour in Agriculture Based on Unscaled Indices*

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Alabama	0.24	0.22	0.25	0.24	0.27	0.24	0.34	0.35	0.35	0.40	0.47	0.47	0.49	0.49	0.58	0.60	0.64	0.63
Arizona	0.32	0.32	0.40	0.44	0.48	0.46	0.44	0.48	0.48	0.52	0.54	0.56	0.59	0.61	0.61	0.61	0.65	0.58
Arkansas	0.30	0.27	0.29	0.29	0.30	0.31	0.35	0.34	0.30	0.31	0.38	0.36	0.40	0.42	0.44	0.49	0.55	0.57
California	0.32	0.33	0.37	0.40	0.40	0.43	0.45	0.48	0.48	0.51	0.54	0.55	0.56	0.60	0.61	0.63	0.64	0.66
Colorado	0.46	0.42	0.43	0.49	0.46	0.40	0.41	0.42	0.52	0.59	0.60	0.61	0.63	0.60	0.58	0.59	0.59	0.67
Connecticut	0.58	0.60	0.62	0.65	0.70	0.70	0.69	0.72	0.70	0.74	0.76	0.72	0.72	0.72	0.76	0.78	0.85	0.93
Delaware	0.42	0.46	0.47	0.44	0.46	0.49	0.49	0.62	0.59	0.67	0.63	0.69	0.67	0.67	0.71	0.71	0.78	0.71
Florida	0.18	0.20	0.23	0.23	0.26	0.26	0.31	0.33	0.33	0.35	0.38	0.38	0.45	0.40	0.40	0.47	0.51	0.60
Georgia	0.19	0.18	0.22	0.21	0.24	0.21	0.28	0.32	0.33	0.39	0.44	0.45	0.50	0.49	0.58	0.59	0.63	0.66
Idaho	0.33	0.35	0.34	0.37	0.40	0.40	0.44	0.45	0.48	0.50	0.50	0.49	0.53	0.53	0.57	0.55	0.61	0.60
Illinois	0.62	0.59	0.63	0.66	0.65	0.65	0.70	0.76	0.70	0.73	0.74	0.72	0.75	0.75	0.79	0.76	0.83	0.78
Indiana	0.56	0.55	0.58	0.58	0.60	0.65	0.63	0.65	0.62	0.63	0.65	0.68	0.68	0.70	0.74	0.68	0.72	0.69
Iowa	0.53	0.53	0.52	0.59	0.55	0.59	0.58	0.55	0.61	0.62	0.66	0.63	0.65	0.66	0.72	0.72	0.71	0.76
Kansas	0.46	0.51	0.46	0.58	0.44	0.49	0.43	0.42	0.44	0.66	0.62	0.69	0.67	0.63	0.62	0.64	0.66	0.66
Kentucky	0.56	0.52	0.56	0.55	0.56	0.60	0.57	0.63	0.59	0.60	0.64	0.64	0.69	0.75	0.83	0.77	0.79	0.78
Louisiana	0.41	0.36	0.43	0.44	0.47	0.46	0.50	0.50	0.47	0.47	0.56	0.55	0.58	0.56	0.68	0.64	0.65	0.70
Maine	0.25	0.26	0.26	0.29	0.32	0.31	0.36	0.42	0.44	0.47	0.48	0.50	0.55	0.59	0.62	0.66	0.64	0.71
Maryland	0.41	0.42	0.44	0.45	0.48	0.49	0.48	0.53	0.49	0.55	0.55	0.58	0.59	0.59	0.60	0.63	0.69	0.65
Massachusetts	0.57	0.64	0.70	0.70	0.79	0.82	0.82	0.84	0.85	0.88	0.90	0.88	0.90	0.93	0.96	0.97	1.00	1.03
Michigan	0.47	0.46	0.47	0.50	0.53	0.52	0.54	0.57	0.57	0.62	0.63	0.59	0.63	0.62	0.63	0.67	0.64	0.65
Minnesota	0.44	0.44	0.46	0.49	0.49	0.53	0.56	0.59	0.59	0.63	0.64	0.64	0.66	0.61	0.66	0.61	0.62	0.66
Mississippi	0.45	0.44	0.46	0.50	0.55	0.48	0.63	0.60	0.57	0.60	0.76	0.72	0.78	0.77	0.89	0.93	0.91	0.87
Missouri	0.61	0.60	0.57	0.59	0.57	0.56	0.66	0.71	0.67	0.73	0.80	0.75	0.77	0.75	0.80	0.78	0.81	0.80
Montana	0.53	0.61	0.62	0.61	0.72	0.66	0.78	0.69	0.70	0.77	0.71	0.69	0.58	0.71	0.77	0.80	0.84	0.86
Nebraska	0.42	0.49	0.46	0.53	0.48	0.49	0.46	0.42	0.54	0.62	0.60	0.61	0.58	0.60	0.62	0.62	0.62	0.71
Nevada	0.56	0.55	0.59	0.60	0.63	0.58	0.57	0.62	0.63	0.64	0.59	0.58	0.54	0.58	0.61	0.62	0.69	0.65
New Hampshire	0.27	0.31	0.34	0.38	0.44	0.47	0.52	0.58	0.62	0.70	0.77	0.69	0.75	0.78	0.76	0.74	0.80	0.88
New Jersey	1.32	1.47	1.57	1.52	1.67	1.72	1.58	1.82	1.65	1.78	1.77	1.70	1.70	1.72	1.67	1.66	1.72	1.52
New Mexico	0.53	0.46	0.51	0.50	0.51	0.52	0.53	0.53	0.52	0.63	0.66	0.64	0.67	0.66	0.67	0.63	0.63	0.67
New York	0.49	0.51	0.52	0.53	0.56	0.57	0.58	0.57	0.56	0.58	0.57	0.58	0.61	0.59	0.62	0.62	0.68	0.73
North Carolina	0.34	0.36	0.44	0.44	0.43	0.45	0.52	0.58	0.50	0.58	0.61	0.65	0.66	0.70	0.73	0.77	0.69	0.70
North Dakota	0.69	0.77	0.81	0.67	0.74	0.73	0.90	0.93	0.88	1.01	0.78	0.88	0.66	1.07	0.97	1.02	1.13	1.03
Ohio	0.54	0.51	0.51	0.55	0.59	0.61	0.60	0.59	0.55	0.58	0.60	0.60	0.60	0.60	0.61	0.59	0.62	0.65
Oklahoma	0.63	0.50	0.53	0.59	0.56	0.54	0.50	0.52	0.48	0.66	0.65	0.71	0.68	0.59	0.60	0.64	0.73	0.67
Oregon	0.47	0.47	0.48	0.53	0.56	0.56	0.59	0.62	0.64	0.67	0.70	0.66	0.67	0.70	0.69	0.71	0.72	0.75
Pennsylvania	0.45	0.45	0.47	0.48	0.49	0.53	0.54	0.57	0.55	0.62	0.63	0.63	0.64	0.59	0.61	0.61	0.67	0.65
Rhode Island	0.65	0.68	0.72	0.75	0.83	0.82	0.79	0.79	0.76	0.82	0.80	0.88	0.94	0.99	1.04	1.01	1.14	1.16
South Carolina	0.39	0.35	0.49	0.45	0.47	0.41	0.51	0.49	0.45	0.47	0.51	0.51	0.55	0.57	0.58	0.59	0.62	0.61
South Dakota	0.53	0.57	0.64	0.61	0.66	0.67	0.65	0.60	0.76	0.80	0.63	0.77	0.73	0.80	0.84	0.80	0.85	0.88
Tennessee	0.60	0.56	0.58	0.56	0.59	0.55	0.63	0.65	0.63	0.67	0.76	0.71	0.75	0.74	0.82	0.83	0.81	0.76
Texas	0.67	0.50	0.51	0.51	0.53	0.56	0.56	0.53	0.57	0.65	0.67	0.67	0.70	0.66	0.68	0.67	0.73	0.70
Utah	0.63	0.62	0.66	0.68	0.68	0.69	0.71	0.72	0.75	0.74	0.77	0.72	0.72	0.76	0.76	0.75	0.77	0.77
Vermont	0.41	0.40	0.41	0.43	0.45	0.46	0.50	0.51	0.54	0.57	0.61	0.62	0.68	0.70	0.74	0.77	0.78	0.80
Virginia	0.57	0.57	0.60	0.61	0.58	0.60	0.61	0.68	0.62	0.70	0.69	0.71	0.74	0.76	0.67	0.75	0.74	0.69
Washington	0.33	0.34	0.33	0.36	0.39	0.40	0.40	0.39	0.47	0.48	0.49	0.46	0.47	0.50	0.54	0.54	0.54	0.60
West Virginia	0.44	0.44	0.46	0.47	0.46	0.51	0.51	0.54	0.53	0.57	0.57	0.56	0.58	0.57	0.58	0.61	0.62	0.59
Wisconsin	0.46	0.47	0.50	0.53	0.54	0.57	0.60	0.62	0.64	0.65	0.69	0.63	0.66	0.67	0.65	0.66	0.68	0.70
Wyoming	0.60	0.63	0.70	0.74	0.73	0.68	0.71	0.72	0.78	0.84	0.80	0.77	0.76	0.79	0.87	0.86	0.86	0.86
48 STATES	0.50	0.49	0.51	0.53	0.54	0.54	0.57	0.58	0.58	0.63	0.65	0.65	0.66	0.67	0.70	0.70	0.72	0.73

Appendix A.1: *Real Agricultural Output per Unadjusted Hour in Agriculture Based on Unscaled Indices (Contd.)*

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Alabama	0.68	0.71	0.76	0.78	0.87	0.87	0.88	0.92	0.97	1.03	0.99	1.05	1.15	1.00	1.28	1.26	1.08	1.41	1.29
Arizona	0.60	0.70	0.72	0.71	0.74	0.78	0.85	0.95	0.81	0.92	0.89	0.89	0.91	1.00	1.05	0.94	0.87	0.98	0.97
Arkansas	0.62	0.70	0.73	0.77	0.82	0.85	0.92	0.91	0.98	0.97	1.06	1.08	1.16	1.00	1.23	1.17	0.97	1.17	1.16
California	0.65	0.72	0.73	0.73	0.75	0.77	0.82	0.85	0.89	0.89	0.89	0.83	0.94	1.00	1.02	1.06	1.01	1.07	1.09
Colorado	0.70	0.72	0.79	0.87	0.89	0.91	0.92	0.90	0.93	0.89	0.89	0.96	0.96	1.00	0.97	0.95	0.98	1.05	1.11
Connecticut	0.93	1.00	1.03	1.05	1.05	0.98	1.02	1.05	0.97	0.98	0.92	0.91	0.94	1.00	1.03	1.08	1.09	1.14	1.16
Delaware	0.84	0.71	0.85	0.85	0.83	0.88	0.99	1.01	0.97	1.04	0.95	1.05	1.15	1.00	1.14	1.23	1.22	1.31	1.41
Florida	0.63	0.54	0.60	0.61	0.66	0.71	0.76	0.79	0.85	0.90	0.87	0.88	0.91	1.00	0.92	0.88	0.87	0.84	0.81
Georgia	0.79	0.76	0.81	0.86	0.96	0.92	0.94	1.05	1.00	1.02	0.89	1.01	1.17	1.00	1.23	1.25	1.12	1.24	1.22
Idaho	0.66	0.66	0.71	0.73	0.77	0.78	0.79	0.80	0.81	0.85	0.80	0.92	0.93	1.00	1.04	1.08	1.07	1.08	1.07
Illinois	0.90	0.85	0.85	0.77	0.92	0.94	0.94	0.81	1.04	0.99	1.04	1.02	1.17	1.00	1.18	1.17	0.76	1.03	1.22
Indiana	0.72	0.73	0.76	0.73	0.87	0.84	0.89	0.75	0.88	0.96	0.97	0.97	1.02	1.00	1.03	1.12	0.80	1.07	1.16
Iowa	0.79	0.78	0.76	0.77	0.84	0.86	0.86	0.76	0.79	0.82	0.86	0.96	1.01	1.00	1.08	1.01	0.76	0.92	1.01
Kansas	0.72	0.77	0.82	0.81	0.95	0.98	1.04	0.88	0.88	0.93	1.03	0.94	1.08	1.00	1.04	1.13	1.00	1.10	1.21
Kentucky	0.82	0.83	0.87	0.83	0.89	0.94	0.88	1.00	0.95	1.06	1.07	1.04	1.01	1.00	1.19	1.25	0.84	1.18	1.14
Louisiana	0.75	0.80	0.71	0.80	0.86	0.92	0.87	0.97	0.95	1.08	1.05	1.05	1.16	1.00	1.16	1.24	1.01	1.21	1.08
Maine	0.75	0.78	0.82	0.89	0.94	0.90	0.88	1.01	0.91	0.95	0.96	0.96	1.01	1.00	1.05	1.09	1.06	1.05	1.14
Maryland	0.75	0.75	0.81	0.84	0.84	0.82	0.89	0.94	0.94	0.97	0.91	1.01	1.05	1.00	1.18	1.17	1.07	1.24	1.26
Massachusetts	1.05	1.10	1.15	1.16	1.16	1.10	1.13	1.17	1.15	1.06	0.97	0.94	0.96	1.00	1.04	1.05	1.07	1.06	1.08
Michigan	0.66	0.69	0.71	0.75	0.76	0.83	0.80	0.80	0.87	0.83	0.91	0.92	0.99	1.00	1.02	1.08	0.94	1.05	1.12
Minnesota	0.68	0.71	0.70	0.73	0.80	0.79	0.90	0.78	0.79	0.74	0.97	0.96	0.98	1.00	1.09	1.10	0.92	1.09	1.14
Mississippi	0.88	0.96	0.90	0.98	1.03	1.01	1.04	0.98	0.98	1.03	1.13	1.11	1.24	1.00	1.23	1.34	1.00	1.23	1.22
Missouri	0.83	0.89	0.80	0.84	0.96	0.95	0.96	0.86	0.90	0.87	1.07	1.06	1.20	1.00	1.19	1.11	0.91	1.02	1.20
Montana	0.88	0.92	0.92	0.92	0.96	0.96	0.91	0.94	1.05	1.08	0.95	1.07	0.94	1.00	1.23	1.26	1.17	1.02	0.75
Nebraska	0.73	0.73	0.79	0.77	0.84	0.88	0.90	0.79	0.84	0.85	0.97	1.02	1.10	1.00	1.14	1.14	0.94	1.14	1.28
Nevada	0.70	0.66	0.77	0.80	0.85	0.82	0.84	0.84	0.86	0.88	0.84	0.91	0.95	1.00	0.98	1.08	1.13	1.15	1.08
New Hampshire	0.93	0.94	0.94	0.94	0.99	0.97	0.97	0.97	0.98	0.94	0.89	0.88	0.96	1.00	1.02	1.11	1.19	1.17	1.22
New Jersey	1.58	1.50	1.49	1.42	1.58	1.03	1.09	1.19	1.06	1.13	1.04	1.00	1.04	1.00	1.14	1.17	1.05	1.17	1.40
New Mexico	0.72	0.75	0.76	0.83	0.80	0.83	0.89	0.78	0.85	0.92	0.95	0.92	1.00	1.00	0.98	0.98	1.05	1.12	1.23
New York	0.79	0.81	0.86	0.88	0.88	0.79	0.81	0.87	0.86	0.86	0.84	0.88	0.94	1.00	1.03	1.08	1.10	1.14	1.21
North Carolina	0.79	0.72	0.77	0.84	0.83	0.83	0.92	0.92	0.95	0.98	0.89	1.00	0.96	1.00	1.13	1.10	0.93	1.09	1.07
North Dakota	1.03	1.14	1.15	1.03	1.35	1.21	1.26	1.12	1.30	1.30	1.24	1.43	1.30	1.00	1.57	1.56	1.32	1.58	1.67
Ohio	0.64	0.67	0.65	0.67	0.78	0.76	0.70	0.77	0.86	0.90	0.92	0.89	0.99	1.00	0.90	1.03	0.84	1.07	1.19
Oklahoma	0.69	0.73	0.74	0.78	0.76	0.83	0.96	0.92	0.93	0.89	0.97	0.88	1.06	1.00	1.00	1.07	0.91	0.99	0.99
Oregon	0.77	0.72	0.79	0.77	0.81	0.76	0.79	0.83	0.86	0.90	0.84	0.88	0.94	1.00	1.04	1.03	1.05	1.08	1.08
Pennsylvania	0.78	0.77	0.84	0.86	0.87	0.81	0.84	0.91	0.89	0.91	0.90	0.92	0.98	1.00	1.11	1.13	1.09	1.20	1.27
Rhode Island	1.14	1.19	1.26	1.21	1.14	1.01	0.94	1.13	1.11	1.04	0.92	0.91	0.89	1.00	1.07	1.10	1.07	1.13	1.23
South Carolina	0.72	0.67	0.77	0.80	0.92	0.90	0.92	1.01	1.07	0.99	0.92	1.02	1.12	1.00	1.26	1.25	0.99	1.29	1.27
South Dakota	0.95	0.97	0.96	0.94	1.02	1.01	1.03	0.93	0.81	0.68	0.98	1.02	1.10	1.00	1.12	1.18	1.09	1.26	1.26
Tennessee	0.76	0.76	0.77	0.78	0.84	0.87	0.87	0.85	0.94	1.02	1.06	1.06	1.10	1.00	1.24	1.27	0.99	1.31	1.36
Texas	0.72	0.77	0.75	0.84	0.79	0.90	1.01	0.91	0.99	1.00	1.13	1.01	1.13	1.00	1.18	1.11	1.02	1.04	1.10
Utah	0.82	0.81	0.82	0.86	0.87	0.81	0.85	0.86	0.88	0.91	0.89	0.97	0.93	1.00	1.12	1.10	1.09	1.04	1.08
Vermont	0.81	0.84	0.89	0.93	0.98	0.97	0.94	0.97	0.94	0.96	0.90	0.91	0.96	1.00	1.02	1.09	1.11	1.09	1.12
Virginia	0.76	0.76	0.81	0.82	0.84	0.87	0.92	0.95	0.95	0.92	0.88	0.99	1.04	1.00	1.18	1.17	1.00	1.19	1.16
Washington	0.61	0.59	0.63	0.64	0.70	0.72	0.71	0.80	0.89	0.90	0.79	0.87	0.90	1.00	1.03	1.01	1.08	1.06	0.94
West Virginia	0.72	0.76	0.80	0.81	0.84	0.87	0.91	0.98	0.96	0.87	0.83	0.88	0.93	1.00	0.98	1.03	1.07	1.16	1.14
Wisconsin	0.72	0.75	0.74	0.78	0.84	0.81	0.77	0.79	0.81	0.77	0.91	0.91	0.96	1.00	1.04	1.06	1.00	1.09	1.11
Wyoming	0.99	0.98	0.91	0.92	1.01	1.04	0.94	0.95	0.99	1.03	0.95	0.97	0.97	1.00	1.08	1.05	1.01	0.95	0.94
48 STATES	0.76	0.77	0.78	0.79	0.85	0.86	0.89	0.85	0.90	0.91	0.96	0.98	1.04	1.00	1.10	1.10	0.94	1.07	1.12

Appendix A.2: *Real Agricultural Output per Unadjusted Acre in Agriculture Based on Unscaled Indices*

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Alabama	0.10	0.10	0.12	0.12	0.14	0.13	0.19	0.19	0.19	0.23	0.26	0.27	0.29	0.30	0.36	0.39	0.44	0.43
Arizona	0.27	0.29	0.35	0.36	0.40	0.38	0.36	0.37	0.38	0.39	0.45	0.46	0.52	0.57	0.59	0.56	0.61	0.56
Arkansas	0.11	0.09	0.11	0.12	0.13	0.14	0.17	0.19	0.18	0.19	0.26	0.25	0.29	0.32	0.34	0.41	0.46	0.53
California	0.35	0.36	0.40	0.44	0.45	0.48	0.50	0.52	0.52	0.54	0.55	0.56	0.57	0.63	0.66	0.69	0.68	0.70
Colorado	0.25	0.23	0.25	0.30	0.29	0.26	0.27	0.29	0.35	0.41	0.43	0.44	0.45	0.44	0.45	0.49	0.53	0.57
Connecticut	0.41	0.44	0.48	0.59	0.66	0.67	0.65	0.68	0.66	0.70	0.72	0.68	0.68	0.65	0.68	0.69	0.71	0.78
Delaware	0.17	0.19	0.21	0.20	0.22	0.24	0.26	0.34	0.33	0.38	0.38	0.40	0.40	0.40	0.43	0.45	0.52	0.51
Florida	0.26	0.30	0.33	0.36	0.41	0.41	0.45	0.47	0.41	0.41	0.45	0.45	0.52	0.46	0.45	0.51	0.53	0.63
Georgia	0.09	0.09	0.12	0.12	0.14	0.14	0.18	0.20	0.20	0.24	0.27	0.28	0.31	0.32	0.36	0.37	0.41	0.49
Idaho	0.25	0.28	0.27	0.30	0.34	0.34	0.37	0.39	0.41	0.42	0.43	0.42	0.45	0.44	0.48	0.44	0.49	0.48
Illinois	0.26	0.25	0.27	0.30	0.30	0.32	0.35	0.41	0.39	0.42	0.45	0.45	0.47	0.48	0.52	0.52	0.60	0.60
Indiana	0.24	0.24	0.26	0.27	0.29	0.33	0.33	0.36	0.36	0.39	0.41	0.44	0.45	0.48	0.52	0.50	0.55	0.56
Iowa	0.27	0.28	0.28	0.32	0.31	0.34	0.35	0.35	0.39	0.41	0.45	0.44	0.45	0.45	0.50	0.52	0.53	0.58
Kansas	0.23	0.26	0.25	0.33	0.26	0.30	0.28	0.29	0.31	0.47	0.45	0.52	0.52	0.49	0.49	0.52	0.55	0.57
Kentucky	0.27	0.27	0.29	0.30	0.31	0.34	0.33	0.38	0.37	0.39	0.43	0.43	0.46	0.50	0.55	0.51	0.55	0.56
Louisiana	0.14	0.12	0.15	0.17	0.19	0.19	0.21	0.22	0.21	0.22	0.26	0.27	0.28	0.29	0.35	0.34	0.37	0.46
Maine	0.21	0.22	0.22	0.27	0.31	0.32	0.35	0.38	0.36	0.34	0.45	0.48	0.52	0.56	0.56	0.60	0.60	0.66
Maryland	0.23	0.23	0.26	0.28	0.30	0.32	0.33	0.38	0.35	0.42	0.44	0.46	0.48	0.47	0.49	0.53	0.59	0.59
Massachusetts	0.50	0.53	0.58	0.59	0.70	0.75	0.73	0.76	0.76	0.75	0.78	0.76	0.80	0.84	0.88	0.89	0.86	0.91
Michigan	0.25	0.24	0.26	0.28	0.30	0.31	0.32	0.35	0.35	0.38	0.39	0.37	0.41	0.41	0.42	0.47	0.48	0.49
Minnesota	0.26	0.25	0.28	0.30	0.31	0.34	0.36	0.40	0.41	0.44	0.46	0.47	0.50	0.46	0.52	0.49	0.52	0.59
Mississippi	0.10	0.10	0.12	0.13	0.15	0.14	0.19	0.18	0.18	0.20	0.25	0.25	0.28	0.29	0.35	0.38	0.41	0.44
Missouri	0.26	0.26	0.26	0.29	0.29	0.30	0.36	0.40	0.39	0.43	0.49	0.47	0.49	0.48	0.54	0.54	0.59	0.61
Montana	0.29	0.35	0.36	0.36	0.44	0.41	0.50	0.44	0.46	0.51	0.49	0.48	0.42	0.51	0.55	0.58	0.63	0.62
Nebraska	0.23	0.27	0.26	0.31	0.29	0.30	0.29	0.27	0.36	0.42	0.41	0.43	0.41	0.44	0.47	0.48	0.50	0.59
Nevada	0.43	0.42	0.44	0.46	0.50	0.47	0.47	0.53	0.55	0.60	0.59	0.57	0.58	0.58	0.59	0.58	0.60	0.66
New Hampshire	0.31	0.33	0.35	0.39	0.47	0.52	0.54	0.57	0.54	0.54	0.67	0.61	0.66	0.70	0.68	0.70	0.76	0.80
New Jersey	0.67	0.75	0.82	0.83	0.95	0.97	0.90	1.10	1.04	1.10	1.19	1.14	1.16	1.16	1.12	1.09	1.14	1.11
New Mexico	0.27	0.24	0.27	0.26	0.27	0.29	0.30	0.31	0.33	0.39	0.43	0.43	0.48	0.48	0.50	0.47	0.51	0.58
New York	0.33	0.35	0.36	0.39	0.42	0.46	0.49	0.51	0.51	0.53	0.54	0.56	0.59	0.58	0.62	0.64	0.68	0.75
North Carolina	0.16	0.17	0.20	0.20	0.20	0.21	0.24	0.27	0.24	0.28	0.29	0.32	0.33	0.37	0.38	0.41	0.39	0.43
North Dakota	0.34	0.39	0.42	0.35	0.40	0.40	0.52	0.55	0.55	0.64	0.51	0.59	0.45	0.73	0.69	0.74	0.84	0.78
Ohio	0.26	0.24	0.25	0.29	0.31	0.34	0.35	0.35	0.35	0.38	0.40	0.41	0.41	0.42	0.44	0.44	0.48	0.53
Oklahoma	0.20	0.16	0.19	0.23	0.23	0.24	0.23	0.26	0.26	0.36	0.37	0.42	0.40	0.36	0.38	0.43	0.51	0.48
Oregon	0.32	0.31	0.33	0.36	0.39	0.39	0.42	0.46	0.48	0.51	0.53	0.50	0.51	0.51	0.51	0.51	0.55	0.63
Pennsylvania	0.28	0.28	0.31	0.32	0.34	0.38	0.40	0.43	0.42	0.48	0.48	0.50	0.52	0.50	0.53	0.55	0.62	0.62
Rhode Island	0.51	0.55	0.61	0.66	0.76	0.77	0.74	0.73	0.70	0.77	0.75	0.77	0.80	0.89	0.90	0.83	0.92	0.91
South Carolina	0.14	0.13	0.18	0.17	0.19	0.17	0.22	0.22	0.20	0.22	0.25	0.25	0.27	0.29	0.31	0.34	0.36	0.41
South Dakota	0.27	0.29	0.34	0.33	0.37	0.39	0.39	0.37	0.48	0.52	0.43	0.53	0.52	0.57	0.61	0.59	0.66	0.70
Tennessee	0.23	0.22	0.24	0.25	0.27	0.26	0.31	0.33	0.32	0.36	0.41	0.39	0.42	0.43	0.47	0.48	0.52	0.50
Texas	0.23	0.17	0.19	0.21	0.23	0.26	0.27	0.28	0.31	0.38	0.40	0.40	0.41	0.40	0.44	0.45	0.52	0.51
Utah	0.31	0.33	0.36	0.40	0.42	0.45	0.47	0.50	0.53	0.51	0.55	0.53	0.54	0.57	0.60	0.59	0.64	0.69
Vermont	0.30	0.28	0.30	0.32	0.36	0.39	0.43	0.42	0.44	0.47	0.51	0.51	0.57	0.59	0.62	0.62	0.62	0.66
Virginia	0.27	0.28	0.30	0.32	0.32	0.34	0.35	0.41	0.38	0.43	0.45	0.46	0.48	0.50	0.45	0.50	0.52	0.53
Washington	0.28	0.29	0.29	0.32	0.35	0.37	0.38	0.37	0.45	0.45	0.47	0.44	0.45	0.49	0.52	0.51	0.56	0.62
West Virginia	0.23	0.23	0.25	0.27	0.28	0.32	0.32	0.37	0.37	0.41	0.41	0.41	0.41	0.41	0.43	0.45	0.47	0.47
Wisconsin	0.31	0.30	0.32	0.34	0.36	0.38	0.40	0.42	0.45	0.46	0.51	0.48	0.51	0.54	0.53	0.56	0.60	0.63
Wyoming	0.35	0.37	0.41	0.45	0.44	0.42	0.45	0.47	0.52	0.57	0.55	0.53	0.54	0.56	0.60	0.57	0.58	0.61
48 STATES	0.22	0.22	0.24	0.27	0.28	0.29	0.32	0.34	0.35	0.39	0.41	0.42	0.44	0.45	0.48	0.49	0.53	0.57

Appendix A.2: *Real Agricultural Output per Unadjusted Acre in Agriculture Based on Unscaled Indices (Contd.)*

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Alabama	0.48	0.52	0.57	0.62	0.72	0.73	0.74	0.80	0.83	0.88	0.90	1.03	1.14	1.00	1.28	1.25	1.10	1.44	1.33
Arizona	0.56	0.66	0.68	0.70	0.74	0.78	0.90	0.99	0.93	1.15	1.01	0.93	0.91	1.00	1.06	0.95	0.93	1.07	1.08
Arkansas	0.56	0.64	0.64	0.69	0.75	0.78	0.84	0.83	0.94	0.96	1.08	1.01	1.13	1.00	1.27	1.22	1.06	1.32	1.36
California	0.73	0.75	0.76	0.75	0.78	0.79	0.82	0.79	0.78	0.77	0.83	0.83	0.92	1.00	0.98	0.98	0.98	1.06	1.10
Colorado	0.57	0.59	0.65	0.71	0.77	0.81	0.78	0.78	0.84	0.86	0.86	0.88	0.93	1.00	0.97	0.95	1.02	1.14	1.21
Connecticut	0.82	0.84	0.85	0.91	0.91	0.78	0.81	0.80	0.76	0.77	0.69	0.87	0.94	1.00	1.01	1.07	1.09	1.23	1.24
Delaware	0.66	0.59	0.75	0.76	0.77	0.82	0.96	0.93	0.94	1.07	1.05	1.03	1.11	1.00	1.16	1.27	1.32	1.45	1.61
Florida	0.66	0.59	0.65	0.68	0.75	0.80	0.83	0.93	1.02	1.04	0.97	0.84	0.88	1.00	0.92	0.88	0.93	0.91	0.93
Georgia	0.57	0.57	0.63	0.68	0.78	0.78	0.75	0.83	0.77	0.84	0.76	0.99	1.13	1.00	1.21	1.27	1.21	1.40	1.39
Idaho	0.59	0.62	0.68	0.69	0.76	0.74	0.75	0.74	0.77	0.71	0.69	0.91	0.95	1.00	1.02	1.02	1.04	1.07	1.03
Illinois	0.70	0.70	0.72	0.66	0.80	0.81	0.80	0.68	0.90	0.85	0.89	0.99	1.12	1.00	1.18	1.25	0.84	1.17	1.40
Indiana	0.63	0.67	0.72	0.68	0.79	0.74	0.76	0.62	0.75	0.83	0.83	0.96	1.01	1.00	1.01	1.13	0.84	1.16	1.27
Iowa	0.63	0.66	0.66	0.68	0.75	0.78	0.77	0.68	0.71	0.72	0.78	0.89	0.98	1.00	1.14	1.05	0.80	0.99	1.16
Kansas	0.64	0.71	0.78	0.77	0.90	0.95	0.98	0.82	0.84	0.88	1.01	0.94	1.09	1.00	1.03	1.11	1.02	1.16	1.32
Kentucky	0.59	0.65	0.73	0.71	0.78	0.83	0.79	0.87	0.88	0.99	1.00	1.04	1.01	1.00	1.17	1.21	0.83	1.25	1.25
Louisiana	0.53	0.61	0.60	0.69	0.74	0.76	0.71	0.80	0.84	0.97	1.05	1.00	1.12	1.00	1.16	1.25	1.05	1.29	1.19
Maine	0.74	0.80	0.86	0.93	1.07	1.05	0.96	1.05	0.96	0.97	0.97	0.94	1.00	1.00	1.00	1.01	0.98	1.04	1.11
Maryland	0.72	0.74	0.82	0.84	0.87	0.85	0.87	0.87	0.86	0.87	0.87	1.07	1.00	1.00	1.14	1.20	1.12	1.42	1.44
Massachusetts	0.94	0.96	1.02	1.04	1.03	1.00	0.95	1.02	1.03	0.96	0.86	0.89	0.96	1.00	1.04	1.06	1.08	1.18	1.14
Michigan	0.51	0.55	0.58	0.60	0.62	0.68	0.66	0.63	0.73	0.71	0.84	0.90	0.96	1.00	1.02	1.09	1.01	1.19	1.28
Minnesota	0.63	0.68	0.69	0.72	0.79	0.80	0.87	0.73	0.74	0.67	0.93	0.95	1.03	1.00	1.09	1.13	0.98	1.16	1.28
Mississippi	0.53	0.62	0.64	0.67	0.72	0.74	0.76	0.65	0.73	0.77	0.90	1.02	1.24	1.00	1.26	1.37	1.07	1.36	1.41
Missouri	0.65	0.74	0.70	0.71	0.84	0.85	0.86	0.75	0.80	0.79	1.01	1.01	1.12	1.00	1.19	1.12	0.93	1.07	1.32
Montana	0.64	0.73	0.72	0.75	0.78	0.77	0.74	0.81	0.99	1.07	1.00	1.04	0.94	1.00	1.20	1.32	1.22	1.04	0.77
Nebraska	0.62	0.66	0.72	0.71	0.79	0.80	0.82	0.73	0.79	0.84	0.93	1.00	1.08	1.00	1.19	1.19	1.01	1.24	1.38
Nevada	0.60	0.58	0.76	0.74	0.81	0.78	0.81	0.77	0.79	0.75	0.70	0.85	0.90	1.00	1.00	1.13	1.23	1.27	1.23
New Hampshire	0.90	0.95	0.96	0.99	1.12	1.20	1.15	1.16	1.13	1.09	1.02	0.87	1.00	1.00	0.93	0.95	1.00	0.95	1.11
New Jersey	1.26	1.21	1.30	1.27	1.48	0.94	1.01	1.17	1.03	1.06	0.97	1.02	1.05	1.00	1.08	1.13	1.00	1.12	1.33
New Mexico	0.66	0.68	0.72	0.83	0.86	0.91	0.93	0.85	0.91	0.91	0.92	0.85	0.95	1.00	0.99	1.01	1.14	1.20	1.30
New York	0.80	0.81	0.84	0.87	0.88	0.81	0.79	0.84	0.82	0.81	0.82	0.95	0.97	1.00	0.99	1.02	1.09	1.14	1.21
North Carolina	0.51	0.50	0.57	0.63	0.64	0.68	0.75	0.74	0.85	0.84	0.82	0.98	0.94	1.00	1.19	1.22	1.11	1.34	1.38
North Dakota	0.82	0.93	0.96	0.88	1.16	1.05	1.11	0.98	1.15	1.14	1.08	1.28	1.18	1.00	1.60	1.62	1.40	1.69	1.81
Ohio	0.53	0.57	0.58	0.59	0.68	0.66	0.58	0.61	0.70	0.71	0.74	0.84	0.95	1.00	0.94	1.02	0.86	1.15	1.30
Oklahoma	0.49	0.54	0.56	0.58	0.58	0.63	0.74	0.70	0.73	0.70	0.79	0.79	1.02	1.00	0.97	1.01	0.89	1.03	1.08
Oregon	0.67	0.65	0.74	0.73	0.79	0.80	0.80	0.88	0.82	0.88	0.77	0.85	0.89	1.00	1.04	1.01	1.09	1.16	1.17
Pennsylvania	0.72	0.73	0.80	0.81	0.86	0.81	0.78	0.79	0.78	0.82	0.81	0.92	0.98	1.00	1.11	1.17	1.23	1.35	1.52
Rhode Island	0.89	0.92	1.06	1.13	1.14	1.02	1.02	1.23	1.23	1.16	0.98	0.96	0.93	1.00	1.02	0.99	0.96	0.99	1.06
South Carolina	0.50	0.47	0.56	0.57	0.68	0.67	0.67	0.75	0.79	0.85	0.83	0.96	1.07	1.00	1.21	1.17	0.92	1.19	1.29
South Dakota	0.77	0.81	0.80	0.81	0.91	0.92	0.91	0.81	0.75	0.67	0.97	1.01	1.10	1.00	1.10	1.16	1.07	1.27	1.39
Tennessee	0.55	0.59	0.64	0.65	0.71	0.72	0.74	0.71	0.81	0.89	0.97	1.06	1.10	1.00	1.22	1.25	1.01	1.38	1.39
Texas	0.55	0.60	0.60	0.68	0.69	0.78	0.91	0.84	0.92	0.98	1.12	0.95	1.11	1.00	1.20	1.15	1.10	1.15	1.24
Utah	0.77	0.76	0.78	0.86	0.90	0.88	0.94	0.94	0.92	0.92	0.90	0.89	0.93	1.00	1.09	1.04	1.05	1.00	1.04
Vermont	0.74	0.80	0.86	0.90	0.98	0.99	0.94	0.95	0.95	0.98	0.95	0.97	1.01	1.00	0.99	1.05	1.11	1.25	1.24
Virginia	0.61	0.65	0.71	0.74	0.75	0.78	0.82	0.83	0.88	0.85	0.89	0.95	1.03	1.00	1.20	1.20	1.07	1.34	1.34
Washington	0.69	0.68	0.70	0.68	0.77	0.82	0.77	0.78	0.86	0.78	0.78	0.85	0.88	1.00	1.03	1.02	1.16	1.19	1.10
West Virginia	0.55	0.59	0.64	0.64	0.66	0.69	0.68	0.73	0.76	0.72	0.72	0.87	0.96	1.00	0.93	0.96	0.96	1.07	1.07
Wisconsin	0.67	0.71	0.71	0.75	0.80	0.79	0.76	0.74	0.77	0.72	0.86	0.88	0.95	1.00	1.01	1.00	1.01	1.13	1.14
Wyoming	0.71	0.73	0.70	0.72	0.83	0.85	0.78	0.78	0.88	0.92	0.87	0.94	0.95	1.00	1.14	1.13	1.11	1.04	1.02
48 STATES	0.62	0.66	0.68	0.70	0.77	0.79	0.81	0.76	0.81	0.82	0.89	0.94	1.02	1.00	1.10	1.11	0.99	1.16	1.25

Appendix B.1: *Real Agricultural Output per Quality-Adjusted Hour Based on Unscaled Indices*

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Alabama	0.28	0.26	0.29	0.28	0.33	0.29	0.41	0.41	0.40	0.46	0.53	0.53	0.56	0.56	0.67	0.70	0.72	0.70
Arizona	0.38	0.37	0.45	0.48	0.52	0.49	0.46	0.50	0.51	0.54	0.56	0.58	0.61	0.63	0.63	0.62	0.66	0.60
Arkansas	0.36	0.32	0.35	0.35	0.37	0.38	0.44	0.43	0.38	0.39	0.49	0.46	0.50	0.53	0.55	0.61	0.65	0.65
California	0.41	0.42	0.46	0.48	0.49	0.51	0.53	0.55	0.55	0.57	0.60	0.61	0.62	0.65	0.66	0.68	0.69	0.71
Colorado	0.52	0.48	0.49	0.58	0.55	0.48	0.49	0.49	0.59	0.66	0.66	0.67	0.69	0.66	0.63	0.64	0.64	0.72
Connecticut	0.63	0.66	0.68	0.70	0.76	0.77	0.76	0.80	0.79	0.84	0.87	0.84	0.84	0.85	0.89	0.92	0.97	1.02
Delaware	0.42	0.46	0.48	0.44	0.47	0.50	0.50	0.63	0.60	0.67	0.64	0.69	0.68	0.67	0.72	0.71	0.78	0.72
Florida	0.19	0.22	0.24	0.25	0.27	0.28	0.33	0.35	0.35	0.36	0.40	0.39	0.47	0.42	0.41	0.49	0.53	0.61
Georgia	0.21	0.21	0.26	0.25	0.28	0.26	0.33	0.37	0.37	0.43	0.49	0.50	0.55	0.55	0.65	0.65	0.69	0.71
Idaho	0.43	0.46	0.44	0.47	0.51	0.51	0.54	0.55	0.57	0.59	0.58	0.56	0.60	0.60	0.65	0.61	0.68	0.66
Illinois	0.64	0.61	0.65	0.68	0.67	0.68	0.72	0.79	0.73	0.78	0.78	0.77	0.79	0.80	0.84	0.81	0.88	0.82
Indiana	0.58	0.58	0.60	0.60	0.62	0.67	0.65	0.68	0.64	0.66	0.68	0.71	0.72	0.74	0.79	0.72	0.76	0.73
Iowa	0.56	0.56	0.55	0.62	0.58	0.62	0.62	0.58	0.64	0.67	0.70	0.67	0.69	0.69	0.75	0.75	0.73	0.78
Kansas	0.51	0.56	0.51	0.64	0.48	0.54	0.47	0.46	0.49	0.72	0.67	0.76	0.74	0.69	0.67	0.70	0.71	0.71
Kentucky	0.62	0.57	0.62	0.60	0.61	0.66	0.63	0.68	0.64	0.65	0.69	0.69	0.74	0.80	0.88	0.81	0.83	0.81
Louisiana	0.47	0.42	0.50	0.51	0.55	0.54	0.58	0.57	0.53	0.54	0.63	0.62	0.65	0.64	0.77	0.73	0.74	0.78
Maine	0.30	0.31	0.30	0.33	0.37	0.35	0.40	0.46	0.47	0.50	0.50	0.53	0.58	0.62	0.66	0.71	0.68	0.75
Maryland	0.42	0.42	0.45	0.46	0.48	0.50	0.49	0.54	0.50	0.57	0.57	0.60	0.61	0.61	0.61	0.65	0.71	0.67
Massachusetts	0.66	0.72	0.77	0.75	0.84	0.85	0.83	0.85	0.85	0.88	0.89	0.88	0.91	0.95	0.98	1.00	1.01	1.02
Michigan	0.53	0.50	0.52	0.54	0.56	0.55	0.57	0.59	0.60	0.64	0.66	0.61	0.65	0.65	0.65	0.71	0.67	0.67
Minnesota	0.49	0.48	0.51	0.53	0.53	0.57	0.60	0.63	0.63	0.66	0.67	0.67	0.69	0.64	0.70	0.65	0.65	0.69
Mississippi	0.49	0.50	0.53	0.58	0.65	0.57	0.74	0.69	0.64	0.67	0.84	0.80	0.88	0.87	1.02	1.07	1.03	0.96
Missouri	0.68	0.67	0.65	0.67	0.65	0.65	0.75	0.79	0.74	0.81	0.87	0.82	0.84	0.81	0.86	0.84	0.86	0.84
Montana	0.60	0.69	0.69	0.68	0.80	0.74	0.86	0.76	0.76	0.83	0.77	0.74	0.62	0.76	0.81	0.84	0.88	0.89
Nebraska	0.51	0.60	0.56	0.64	0.59	0.60	0.55	0.50	0.64	0.73	0.70	0.72	0.68	0.71	0.73	0.73	0.73	0.83
Nevada	0.60	0.58	0.64	0.65	0.70	0.65	0.65	0.71	0.72	0.73	0.69	0.66	0.59	0.62	0.63	0.63	0.71	0.67
New Hampshire	0.42	0.47	0.49	0.52	0.59	0.61	0.65	0.68	0.70	0.76	0.81	0.73	0.79	0.82	0.81	0.79	0.85	0.93
New Jersey	1.34	1.50	1.60	1.55	1.70	1.75	1.60	1.86	1.68	1.83	1.83	1.75	1.75	1.76	1.71	1.70	1.75	1.55
New Mexico	0.56	0.49	0.54	0.54	0.55	0.56	0.57	0.57	0.55	0.66	0.69	0.66	0.69	0.67	0.68	0.64	0.64	0.69
New York	0.55	0.57	0.57	0.59	0.62	0.64	0.65	0.65	0.64	0.67	0.66	0.67	0.71	0.69	0.72	0.72	0.77	0.80
North Carolina	0.40	0.42	0.50	0.50	0.49	0.51	0.57	0.63	0.53	0.62	0.64	0.69	0.71	0.75	0.79	0.83	0.74	0.75
North Dakota	0.73	0.80	0.84	0.70	0.78	0.77	0.94	0.97	0.92	1.06	0.81	0.92	0.68	1.12	1.01	1.06	1.17	1.05
Ohio	0.59	0.56	0.56	0.60	0.64	0.66	0.66	0.65	0.61	0.64	0.66	0.66	0.66	0.66	0.68	0.65	0.67	0.71
Oklahoma	0.61	0.49	0.52	0.59	0.57	0.55	0.51	0.52	0.49	0.66	0.65	0.72	0.70	0.61	0.62	0.67	0.75	0.69
Oregon	0.54	0.54	0.55	0.59	0.62	0.61	0.63	0.67	0.68	0.70	0.73	0.68	0.69	0.71	0.70	0.71	0.73	0.76
Pennsylvania	0.48	0.48	0.50	0.51	0.53	0.57	0.58	0.60	0.58	0.65	0.66	0.66	0.68	0.63	0.65	0.66	0.71	0.68
Rhode Island	0.72	0.75	0.79	0.83	0.92	0.91	0.88	0.89	0.86	0.90	0.86	0.94	0.98	1.03	1.07	1.03	1.15	1.18
South Carolina	0.42	0.38	0.53	0.49	0.51	0.45	0.56	0.54	0.50	0.52	0.57	0.57	0.61	0.64	0.65	0.67	0.69	0.67
South Dakota	0.53	0.57	0.64	0.61	0.67	0.67	0.65	0.60	0.77	0.81	0.64	0.78	0.75	0.82	0.86	0.81	0.86	0.89
Tennessee	0.63	0.59	0.62	0.60	0.64	0.60	0.68	0.70	0.66	0.71	0.79	0.74	0.78	0.77	0.86	0.87	0.84	0.79
Texas	0.74	0.55	0.55	0.55	0.57	0.59	0.60	0.56	0.60	0.69	0.70	0.71	0.74	0.70	0.71	0.71	0.76	0.72
Utah	0.64	0.63	0.68	0.70	0.70	0.71	0.73	0.74	0.77	0.76	0.78	0.73	0.73	0.76	0.77	0.75	0.78	0.78
Vermont	0.53	0.52	0.54	0.55	0.59	0.60	0.64	0.63	0.66	0.69	0.72	0.72	0.77	0.79	0.82	0.84	0.83	0.84
Virginia	0.61	0.62	0.66	0.68	0.65	0.69	0.70	0.77	0.70	0.79	0.78	0.80	0.83	0.86	0.76	0.84	0.82	0.75
Washington	0.46	0.46	0.45	0.48	0.51	0.51	0.50	0.48	0.56	0.56	0.56	0.52	0.53	0.56	0.60	0.59	0.59	0.65
West Virginia	0.57	0.57	0.61	0.63	0.64	0.72	0.70	0.74	0.72	0.77	0.77	0.76	0.78	0.77	0.78	0.82	0.79	0.71
Wisconsin	0.54	0.54	0.57	0.59	0.61	0.63	0.65	0.67	0.69	0.70	0.75	0.68	0.71	0.72	0.70	0.71	0.73	0.74
Wyoming	0.64	0.68	0.76	0.80	0.80	0.74	0.77	0.78	0.83	0.88	0.83	0.80	0.79	0.81	0.89	0.87	0.88	0.87
48 STATES	0.54	0.53	0.55	0.58	0.58	0.59	0.62	0.63	0.63	0.68	0.69	0.69	0.71	0.71	0.74	0.74	0.76	0.76

Appendix B.1: *Real Agricultural Output per Quality-Adjusted Hour Based on Unscaled Indices (Contd.)*

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Alabama	0.73	0.75	0.78	0.80	0.90	0.90	0.92	0.96	1.00	1.05	1.00	1.05	1.15	1.00	1.28	1.26	1.09	1.42	1.30
Arizona	0.61	0.71	0.73	0.72	0.75	0.79	0.86	0.96	0.82	0.92	0.89	0.89	0.91	1.00	1.05	0.95	0.89	1.00	0.99
Arkansas	0.69	0.75	0.77	0.80	0.85	0.87	0.94	0.93	0.99	0.97	1.05	1.07	1.15	1.00	1.24	1.19	1.00	1.22	1.22
California	0.69	0.77	0.78	0.77	0.79	0.81	0.86	0.89	0.92	0.91	0.91	0.84	0.94	1.00	1.02	1.05	1.01	1.07	1.09
Colorado	0.74	0.76	0.82	0.91	0.93	0.95	0.96	0.95	0.97	0.91	0.90	0.95	0.96	1.00	0.97	0.96	0.99	1.07	1.13
Connecticut	0.99	1.04	1.04	1.07	1.06	0.98	1.03	1.06	0.97	0.99	0.93	0.91	0.94	1.00	1.03	1.08	1.09	1.14	1.17
Delaware	0.85	0.72	0.86	0.87	0.84	0.89	1.00	1.01	0.97	1.04	0.95	1.05	1.15	1.00	1.14	1.22	1.22	1.30	1.40
Florida	0.64	0.55	0.61	0.62	0.67	0.72	0.78	0.80	0.86	0.91	0.87	0.87	0.90	1.00	0.93	0.89	0.89	0.86	0.84
Georgia	0.83	0.78	0.82	0.88	0.97	0.94	0.96	1.08	1.02	1.03	0.89	1.01	1.17	1.00	1.23	1.25	1.13	1.25	1.24
Idaho	0.72	0.72	0.77	0.79	0.82	0.83	0.84	0.84	0.84	0.87	0.81	0.93	0.93	1.00	1.04	1.07	1.07	1.08	1.06
Illinois	0.93	0.88	0.87	0.79	0.94	0.95	0.94	0.81	1.04	0.99	1.04	1.02	1.17	1.00	1.18	1.17	0.76	1.04	1.22
Indiana	0.75	0.77	0.79	0.76	0.89	0.86	0.90	0.76	0.89	0.97	0.97	0.97	1.02	1.00	1.03	1.12	0.80	1.07	1.15
Iowa	0.81	0.79	0.77	0.78	0.85	0.87	0.88	0.77	0.80	0.82	0.86	0.95	1.01	1.00	1.09	1.01	0.77	0.93	1.02
Kansas	0.76	0.80	0.84	0.83	0.98	1.01	1.08	0.91	0.91	0.95	1.05	0.95	1.08	1.00	1.03	1.12	0.98	1.07	1.17
Kentucky	0.85	0.85	0.89	0.85	0.92	0.97	0.91	1.04	0.97	1.08	1.07	1.03	1.00	1.00	1.19	1.26	0.85	1.20	1.16
Louisiana	0.83	0.88	0.77	0.86	0.92	0.97	0.92	1.01	0.98	1.09	1.06	1.04	1.15	1.00	1.17	1.26	1.03	1.23	1.11
Maine	0.79	0.83	0.87	0.93	0.98	0.93	0.90	1.04	0.93	0.97	0.97	0.96	1.01	1.00	1.05	1.09	1.05	1.04	1.12
Maryland	0.77	0.76	0.82	0.84	0.85	0.83	0.89	0.94	0.94	0.97	0.91	1.01	1.05	1.00	1.18	1.18	1.08	1.25	1.28
Massachusetts	1.03	1.08	1.14	1.13	1.13	1.06	1.08	1.13	1.10	1.00	0.94	0.95	0.96	1.00	1.03	1.02	1.03	1.01	1.03
Michigan	0.68	0.70	0.71	0.75	0.76	0.82	0.80	0.80	0.86	0.82	0.90	0.91	0.98	1.00	1.03	1.11	0.98	1.10	1.19
Minnesota	0.71	0.74	0.72	0.74	0.81	0.81	0.92	0.79	0.80	0.75	0.98	0.96	0.98	1.00	1.09	1.10	0.92	1.09	1.14
Mississippi	0.96	1.03	0.94	1.03	1.07	1.05	1.07	1.00	0.99	1.03	1.13	1.10	1.23	1.00	1.24	1.37	1.03	1.27	1.28
Missouri	0.87	0.91	0.82	0.86	0.99	0.98	1.00	0.89	0.93	0.89	1.08	1.05	1.20	1.00	1.19	1.12	0.92	1.04	1.22
Montana	0.91	0.95	0.95	0.94	0.99	0.99	0.94	0.98	1.08	1.10	0.96	1.07	0.94	1.00	1.23	1.26	1.17	1.01	0.74
Nebraska	0.84	0.84	0.89	0.86	0.94	0.97	0.98	0.86	0.90	0.89	1.00	1.04	1.11	1.00	1.14	1.12	0.92	1.11	1.23
Nevada	0.72	0.68	0.80	0.83	0.88	0.85	0.87	0.87	0.88	0.89	0.84	0.91	0.94	1.00	0.98	1.09	1.14	1.16	1.09
New Hampshire	0.98	0.98	0.98	0.98	1.03	1.00	0.99	1.00	1.00	0.95	0.89	0.87	0.96	1.00	1.03	1.13	1.22	1.22	1.29
New Jersey	1.60	1.52	1.50	1.44	1.60	1.04	1.10	1.20	1.07	1.14	1.05	1.01	1.05	1.00	1.14	1.16	1.04	1.15	1.38
New Mexico	0.73	0.76	0.77	0.84	0.81	0.84	0.90	0.79	0.86	0.92	0.94	0.91	1.00	1.00	0.99	0.99	1.06	1.14	1.26
New York	0.85	0.84	0.88	0.90	0.90	0.82	0.84	0.90	0.89	0.88	0.86	0.89	0.95	1.00	1.02	1.06	1.08	1.11	1.16
North Carolina	0.83	0.75	0.81	0.88	0.86	0.86	0.95	0.95	0.97	1.00	0.89	1.00	0.96	1.00	1.13	1.10	0.93	1.09	1.08
North Dakota	1.04	1.15	1.15	1.03	1.34	1.20	1.25	1.11	1.29	1.29	1.23	1.42	1.30	1.00	1.57	1.57	1.33	1.59	1.69
Ohio	0.68	0.70	0.68	0.70	0.80	0.78	0.71	0.78	0.87	0.91	0.92	0.90	0.99	1.00	0.90	1.03	0.83	1.07	1.18
Oklahoma	0.69	0.72	0.72	0.76	0.74	0.81	0.94	0.90	0.91	0.88	0.96	0.87	1.05	1.00	1.01	1.08	0.92	1.00	1.01
Oregon	0.78	0.73	0.80	0.78	0.82	0.77	0.80	0.84	0.87	0.90	0.84	0.88	0.94	1.00	1.04	1.03	1.05	1.08	1.08
Pennsylvania	0.80	0.78	0.84	0.86	0.88	0.82	0.85	0.92	0.90	0.91	0.90	0.92	0.98	1.00	1.11	1.13	1.09	1.20	1.27
Rhode Island	1.17	1.22	1.29	1.24	1.18	1.04	0.97	1.17	1.14	1.05	0.92	0.90	0.89	1.00	1.08	1.10	1.08	1.14	1.25
South Carolina	0.77	0.71	0.81	0.83	0.96	0.93	0.95	1.04	1.09	1.01	0.93	1.03	1.13	1.00	1.26	1.24	0.98	1.28	1.25
South Dakota	0.95	0.97	0.95	0.93	1.01	1.01	1.04	0.94	0.82	0.69	0.99	1.03	1.10	1.00	1.12	1.17	1.08	1.25	1.25
Tennessee	0.79	0.79	0.80	0.81	0.87	0.90	0.90	0.88	0.96	1.03	1.07	1.06	1.11	1.00	1.24	1.27	0.98	1.30	1.35
Texas	0.73	0.78	0.75	0.84	0.79	0.90	1.02	0.92	0.99	1.00	1.12	0.98	1.12	1.00	1.20	1.14	1.06	1.09	1.18
Utah	0.84	0.82	0.83	0.88	0.88	0.82	0.86	0.87	0.89	0.92	0.89	0.97	0.93	1.00	1.12	1.10	1.10	1.05	1.09
Vermont	0.84	0.85	0.89	0.93	0.98	0.96	0.93	0.95	0.93	0.95	0.90	0.91	0.96	1.00	1.02	1.09	1.12	1.11	1.15
Virginia	0.81	0.81	0.84	0.85	0.87	0.90	0.94	0.96	0.96	0.92	0.88	0.98	1.04	1.00	1.19	1.18	1.01	1.21	1.18
Washington	0.66	0.63	0.66	0.67	0.73	0.75	0.74	0.82	0.90	0.90	0.79	0.86	0.89	1.00	1.04	1.03	1.12	1.11	1.00
West Virginia	0.82	0.82	0.82	0.84	0.86	0.90	0.94	1.00	0.98	0.87	0.83	0.87	0.93	1.00	0.99	1.04	1.09	1.19	1.17
Wisconsin	0.76	0.79	0.78	0.81	0.86	0.83	0.79	0.81	0.82	0.78	0.92	0.91	0.96	1.00	1.04	1.06	1.00	1.09	1.11
Wyoming	1.00	1.00	0.93	0.94	1.04	1.07	0.97	0.99	1.02	1.05	0.95	0.96	0.97	1.00	1.08	1.06	1.03	0.97	0.95
48 STATES	0.79	0.80	0.80	0.82	0.88	0.89	0.92	0.87	0.92	0.92	0.97	0.97	1.04	1.00	1.10	1.11	0.95	1.09	1.14

Appendix B.2: *Real Agricultural Output per Unadjusted Acre in Agriculture Based on Unscaled Indices*

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Alabama	0.12	0.11	0.13	0.13	0.16	0.15	0.21	0.22	0.22	0.26	0.30	0.31	0.33	0.34	0.41	0.44	0.48	0.48
Arizona	0.28	0.29	0.35	0.37	0.41	0.39	0.37	0.39	0.40	0.41	0.47	0.48	0.54	0.59	0.60	0.58	0.63	0.57
Arkansas	0.12	0.11	0.12	0.13	0.15	0.16	0.20	0.21	0.20	0.22	0.29	0.29	0.33	0.36	0.38	0.45	0.50	0.55
California	0.35	0.35	0.40	0.43	0.44	0.48	0.50	0.52	0.51	0.53	0.55	0.56	0.57	0.63	0.66	0.69	0.68	0.70
Colorado	0.27	0.26	0.27	0.33	0.32	0.28	0.29	0.31	0.38	0.45	0.47	0.48	0.49	0.48	0.48	0.51	0.54	0.59
Connecticut	0.44	0.47	0.51	0.62	0.69	0.70	0.68	0.71	0.70	0.74	0.76	0.72	0.72	0.69	0.73	0.74	0.76	0.82
Delaware	0.19	0.21	0.23	0.23	0.24	0.26	0.28	0.37	0.36	0.41	0.41	0.43	0.44	0.43	0.47	0.49	0.56	0.55
Florida	0.25	0.29	0.33	0.35	0.40	0.40	0.44	0.46	0.41	0.41	0.45	0.45	0.53	0.47	0.46	0.52	0.55	0.65
Georgia	0.10	0.10	0.13	0.13	0.16	0.15	0.20	0.22	0.22	0.27	0.30	0.32	0.35	0.36	0.42	0.43	0.47	0.53
Idaho	0.26	0.29	0.28	0.32	0.35	0.35	0.38	0.40	0.42	0.44	0.45	0.43	0.47	0.46	0.50	0.47	0.53	0.52
Illinois	0.30	0.29	0.31	0.34	0.34	0.36	0.40	0.45	0.43	0.47	0.49	0.50	0.52	0.53	0.57	0.57	0.65	0.63
Indiana	0.28	0.28	0.30	0.31	0.34	0.37	0.38	0.41	0.41	0.44	0.46	0.50	0.51	0.54	0.58	0.56	0.61	0.61
Iowa	0.30	0.31	0.31	0.35	0.34	0.37	0.37	0.37	0.42	0.44	0.48	0.47	0.48	0.49	0.53	0.55	0.55	0.60
Kansas	0.25	0.28	0.27	0.35	0.27	0.32	0.29	0.30	0.33	0.49	0.48	0.55	0.54	0.51	0.51	0.54	0.57	0.58
Kentucky	0.31	0.30	0.33	0.33	0.34	0.37	0.37	0.42	0.41	0.43	0.47	0.48	0.51	0.56	0.61	0.57	0.60	0.61
Louisiana	0.16	0.14	0.18	0.19	0.21	0.22	0.24	0.25	0.24	0.25	0.30	0.31	0.33	0.33	0.41	0.40	0.44	0.52
Maine	0.22	0.23	0.23	0.28	0.32	0.33	0.36	0.40	0.38	0.37	0.46	0.49	0.54	0.57	0.58	0.63	0.62	0.69
Maryland	0.26	0.26	0.29	0.31	0.34	0.36	0.37	0.43	0.40	0.47	0.48	0.51	0.53	0.52	0.53	0.58	0.64	0.63
Massachusetts	0.51	0.54	0.60	0.61	0.72	0.77	0.75	0.78	0.78	0.78	0.80	0.79	0.83	0.86	0.90	0.91	0.89	0.93
Michigan	0.29	0.27	0.29	0.31	0.34	0.34	0.36	0.39	0.39	0.43	0.44	0.42	0.45	0.46	0.47	0.52	0.52	0.54
Minnesota	0.29	0.28	0.31	0.33	0.34	0.37	0.40	0.44	0.45	0.48	0.49	0.51	0.53	0.50	0.56	0.52	0.55	0.61
Mississippi	0.11	0.11	0.12	0.14	0.16	0.14	0.20	0.19	0.19	0.21	0.27	0.27	0.31	0.32	0.39	0.43	0.46	0.49
Missouri	0.30	0.30	0.30	0.33	0.34	0.35	0.41	0.46	0.44	0.49	0.56	0.54	0.56	0.55	0.60	0.60	0.65	0.67
Montana	0.34	0.40	0.41	0.42	0.51	0.47	0.57	0.50	0.52	0.58	0.56	0.54	0.46	0.56	0.61	0.64	0.69	0.69
Nebraska	0.25	0.29	0.28	0.33	0.31	0.32	0.31	0.29	0.38	0.45	0.44	0.45	0.44	0.46	0.49	0.50	0.52	0.61
Nevada	0.46	0.45	0.48	0.49	0.54	0.51	0.51	0.58	0.59	0.64	0.63	0.60	0.61	0.61	0.63	0.61	0.65	0.69
New Hampshire	0.35	0.37	0.39	0.44	0.53	0.58	0.60	0.64	0.61	0.63	0.75	0.69	0.75	0.79	0.77	0.78	0.85	0.91
New Jersey	0.74	0.81	0.89	0.90	1.03	1.05	0.98	1.19	1.12	1.20	1.29	1.23	1.26	1.26	1.22	1.19	1.25	1.19
New Mexico	0.29	0.26	0.29	0.28	0.30	0.32	0.32	0.34	0.36	0.43	0.47	0.47	0.51	0.51	0.54	0.51	0.54	0.61
New York	0.36	0.38	0.39	0.42	0.46	0.49	0.52	0.54	0.54	0.56	0.57	0.59	0.62	0.61	0.65	0.67	0.71	0.77
North Carolina	0.18	0.19	0.22	0.22	0.22	0.22	0.26	0.29	0.25	0.30	0.32	0.35	0.37	0.40	0.42	0.46	0.43	0.47
North Dakota	0.39	0.44	0.48	0.41	0.46	0.46	0.59	0.62	0.62	0.71	0.57	0.65	0.50	0.81	0.76	0.81	0.91	0.84
Ohio	0.29	0.28	0.29	0.33	0.36	0.39	0.39	0.40	0.39	0.42	0.45	0.46	0.46	0.47	0.49	0.49	0.53	0.58
Oklahoma	0.23	0.19	0.22	0.26	0.26	0.28	0.27	0.29	0.29	0.40	0.41	0.47	0.45	0.40	0.42	0.47	0.55	0.52
Oregon	0.35	0.34	0.36	0.39	0.43	0.43	0.46	0.50	0.52	0.56	0.58	0.54	0.56	0.57	0.56	0.56	0.61	0.69
Pennsylvania	0.30	0.31	0.33	0.35	0.37	0.41	0.43	0.46	0.45	0.51	0.52	0.53	0.55	0.53	0.56	0.58	0.64	0.63
Rhode Island	0.55	0.59	0.65	0.70	0.81	0.82	0.79	0.77	0.74	0.82	0.79	0.82	0.85	0.93	0.94	0.87	0.96	0.97
South Carolina	0.16	0.14	0.20	0.19	0.21	0.18	0.24	0.24	0.23	0.25	0.28	0.29	0.32	0.35	0.38	0.41	0.44	0.46
South Dakota	0.30	0.32	0.37	0.36	0.41	0.42	0.43	0.41	0.52	0.57	0.47	0.57	0.55	0.61	0.65	0.63	0.69	0.73
Tennessee	0.26	0.26	0.28	0.28	0.31	0.30	0.35	0.37	0.37	0.41	0.47	0.45	0.48	0.48	0.53	0.55	0.57	0.56
Texas	0.27	0.20	0.22	0.25	0.27	0.30	0.32	0.32	0.36	0.44	0.47	0.47	0.49	0.47	0.50	0.52	0.58	0.57
Utah	0.33	0.35	0.39	0.42	0.44	0.48	0.50	0.53	0.56	0.55	0.58	0.56	0.57	0.61	0.63	0.63	0.67	0.72
Vermont	0.33	0.31	0.34	0.36	0.40	0.43	0.48	0.46	0.49	0.52	0.56	0.57	0.62	0.64	0.67	0.67	0.68	0.71
Virginia	0.31	0.32	0.34	0.36	0.35	0.38	0.39	0.45	0.42	0.49	0.50	0.52	0.54	0.56	0.50	0.56	0.58	0.57
Washington	0.29	0.30	0.30	0.33	0.37	0.38	0.39	0.38	0.46	0.46	0.48	0.45	0.46	0.50	0.53	0.52	0.56	0.63
West Virginia	0.27	0.27	0.29	0.31	0.32	0.37	0.38	0.42	0.43	0.47	0.49	0.48	0.49	0.48	0.49	0.52	0.53	0.52
Wisconsin	0.35	0.34	0.36	0.39	0.40	0.43	0.45	0.47	0.50	0.52	0.56	0.53	0.57	0.59	0.58	0.60	0.64	0.67
Wyoming	0.39	0.41	0.46	0.50	0.49	0.47	0.50	0.52	0.57	0.63	0.61	0.58	0.59	0.61	0.66	0.63	0.64	0.66
48 STATES	0.25	0.25	0.27	0.30	0.31	0.33	0.35	0.37	0.39	0.43	0.45	0.46	0.48	0.49	0.53	0.54	0.58	0.60

Appendix B.2: *Real Agricultural Output per Unadjusted Acre in Agriculture Based on Unscaled Indices (Contd.)*

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Alabama	0.53	0.58	0.64	0.68	0.77	0.78	0.78	0.83	0.88	0.94	0.94	1.06	1.16	1.00	1.27	1.23	1.06	1.38	1.25
Arizona	0.57	0.68	0.70	0.72	0.76	0.79	0.91	1.00	0.92	1.12	1.00	0.94	0.91	1.00	1.05	0.94	0.91	1.03	1.04
Arkansas	0.59	0.68	0.70	0.74	0.79	0.81	0.87	0.85	0.95	0.96	1.07	1.04	1.15	1.00	1.25	1.19	1.01	1.25	1.26
California	0.72	0.75	0.76	0.76	0.79	0.80	0.84	0.82	0.81	0.80	0.85	0.84	0.93	1.00	0.98	0.97	0.97	1.04	1.07
Colorado	0.60	0.62	0.68	0.75	0.81	0.84	0.82	0.82	0.87	0.87	0.87	0.92	0.94	1.00	0.97	0.94	0.99	1.08	1.14
Connecticut	0.85	0.87	0.89	0.94	0.95	0.83	0.86	0.87	0.82	0.84	0.76	0.90	0.95	1.00	1.00	1.05	1.06	1.16	1.18
Delaware	0.70	0.62	0.79	0.79	0.79	0.84	0.96	0.94	0.94	1.06	1.02	1.05	1.13	1.00	1.15	1.24	1.27	1.39	1.53
Florida	0.69	0.61	0.67	0.70	0.77	0.81	0.85	0.93	1.01	1.03	0.96	0.86	0.89	1.00	0.92	0.87	0.91	0.89	0.89
Georgia	0.63	0.62	0.69	0.74	0.83	0.82	0.80	0.89	0.84	0.90	0.81	1.01	1.15	1.00	1.21	1.25	1.16	1.33	1.32
Idaho	0.61	0.64	0.70	0.72	0.77	0.76	0.77	0.76	0.79	0.75	0.73	0.93	0.95	1.00	1.02	1.03	1.03	1.05	1.02
Illinois	0.74	0.73	0.75	0.68	0.82	0.83	0.82	0.71	0.92	0.89	0.93	1.00	1.14	1.00	1.18	1.22	0.81	1.12	1.34
Indiana	0.66	0.70	0.74	0.70	0.82	0.78	0.80	0.66	0.79	0.87	0.88	0.97	1.01	1.00	1.02	1.13	0.82	1.12	1.21
Iowa	0.65	0.67	0.67	0.69	0.75	0.78	0.78	0.69	0.73	0.75	0.80	0.92	0.99	1.00	1.12	1.04	0.80	0.97	1.12
Kansas	0.65	0.71	0.78	0.77	0.90	0.94	0.99	0.83	0.85	0.90	1.02	0.95	1.09	1.00	1.03	1.11	1.00	1.13	1.27
Kentucky	0.65	0.69	0.76	0.74	0.81	0.86	0.82	0.92	0.91	1.03	1.04	1.06	1.02	1.00	1.16	1.20	0.82	1.19	1.17
Louisiana	0.61	0.70	0.68	0.76	0.80	0.82	0.76	0.84	0.87	1.00	1.06	1.03	1.15	1.00	1.15	1.23	1.02	1.25	1.14
Maine	0.76	0.83	0.88	0.95	1.07	1.04	0.97	1.08	0.98	1.00	1.00	0.98	1.02	1.00	1.00	1.01	0.98	1.00	1.07
Maryland	0.76	0.78	0.85	0.87	0.89	0.86	0.90	0.90	0.89	0.92	0.89	1.07	1.02	1.00	1.14	1.17	1.09	1.33	1.36
Massachusetts	0.97	0.99	1.05	1.06	1.06	1.02	1.00	1.07	1.08	1.01	0.91	0.93	0.98	1.00	1.02	1.02	1.02	1.05	1.01
Michigan	0.56	0.60	0.62	0.65	0.66	0.71	0.69	0.67	0.76	0.74	0.87	0.91	0.97	1.00	1.02	1.09	0.99	1.14	1.24
Minnesota	0.66	0.70	0.71	0.74	0.81	0.80	0.88	0.75	0.76	0.70	0.95	0.96	1.01	1.00	1.09	1.11	0.95	1.13	1.22
Mississippi	0.57	0.68	0.70	0.75	0.78	0.79	0.80	0.71	0.78	0.84	0.97	1.07	1.25	1.00	1.24	1.35	1.04	1.32	1.36
Missouri	0.71	0.79	0.74	0.77	0.90	0.90	0.91	0.81	0.85	0.83	1.05	1.04	1.16	1.00	1.18	1.11	0.91	1.03	1.24
Montana	0.71	0.79	0.79	0.81	0.84	0.84	0.81	0.87	1.03	1.08	0.99	1.06	0.94	1.00	1.21	1.29	1.18	1.01	0.74
Nebraska	0.64	0.67	0.73	0.72	0.79	0.81	0.84	0.74	0.80	0.83	0.94	1.01	1.09	1.00	1.17	1.17	0.98	1.19	1.32
Nevada	0.64	0.63	0.79	0.79	0.86	0.83	0.86	0.83	0.85	0.81	0.75	0.88	0.92	1.00	0.99	1.10	1.17	1.19	1.13
New Hampshire	1.00	1.04	1.05	1.06	1.17	1.19	1.16	1.15	1.14	1.10	1.04	0.93	1.01	1.00	0.94	0.95	0.99	0.95	1.05
New Jersey	1.34	1.29	1.38	1.34	1.55	0.99	1.06	1.21	1.07	1.11	1.02	1.05	1.06	1.00	1.08	1.11	0.97	1.06	1.24
New Mexico	0.69	0.72	0.76	0.87	0.88	0.93	0.96	0.87	0.93	0.95	0.95	0.89	0.97	1.00	0.98	0.98	1.07	1.13	1.23
New York	0.82	0.83	0.86	0.88	0.88	0.81	0.79	0.84	0.84	0.84	0.84	0.95	0.97	1.00	0.99	1.01	1.06	1.09	1.15
North Carolina	0.55	0.54	0.61	0.67	0.68	0.70	0.78	0.77	0.86	0.87	0.83	0.99	0.95	1.00	1.17	1.17	1.05	1.26	1.28
North Dakota	0.87	0.99	1.02	0.93	1.22	1.10	1.16	1.02	1.20	1.19	1.13	1.32	1.22	1.00	1.59	1.61	1.38	1.65	1.76
Ohio	0.57	0.61	0.62	0.63	0.72	0.69	0.62	0.66	0.75	0.78	0.81	0.87	0.97	1.00	0.92	1.01	0.84	1.10	1.23
Oklahoma	0.53	0.58	0.61	0.64	0.63	0.68	0.80	0.76	0.79	0.77	0.86	0.83	1.04	1.00	0.98	1.03	0.89	1.00	1.03
Oregon	0.74	0.72	0.81	0.80	0.85	0.84	0.84	0.90	0.87	0.92	0.82	0.89	0.92	1.00	1.02	0.98	1.03	1.08	1.09
Pennsylvania	0.74	0.75	0.82	0.83	0.87	0.81	0.79	0.82	0.81	0.85	0.85	0.94	0.99	1.00	1.10	1.13	1.15	1.26	1.37
Rhode Island	0.95	0.99	1.13	1.18	1.17	1.05	1.04	1.25	1.24	1.17	1.00	0.98	0.93	1.00	1.01	0.98	0.94	0.97	1.03
South Carolina	0.56	0.54	0.65	0.66	0.76	0.74	0.74	0.82	0.87	0.90	0.87	1.01	1.11	1.00	1.22	1.17	0.92	1.20	1.23
South Dakota	0.80	0.84	0.84	0.84	0.93	0.93	0.94	0.84	0.76	0.67	0.97	1.01	1.10	1.00	1.11	1.17	1.08	1.26	1.32
Tennessee	0.61	0.64	0.69	0.70	0.76	0.78	0.79	0.76	0.87	0.96	1.03	1.10	1.12	1.00	1.21	1.21	0.96	1.29	1.32
Texas	0.59	0.64	0.64	0.73	0.72	0.82	0.95	0.87	0.95	1.00	1.14	1.00	1.13	1.00	1.18	1.11	1.04	1.07	1.15
Utah	0.80	0.79	0.82	0.89	0.92	0.89	0.94	0.95	0.94	0.94	0.92	0.94	0.94	1.00	1.09	1.04	1.04	0.99	1.03
Vermont	0.77	0.82	0.88	0.92	0.98	0.99	0.94	0.95	0.95	0.98	0.95	0.98	1.00	1.00	0.98	1.03	1.07	1.14	1.15
Virginia	0.66	0.70	0.77	0.79	0.80	0.82	0.86	0.87	0.91	0.88	0.90	0.98	1.05	1.00	1.18	1.16	1.03	1.27	1.27
Washington	0.69	0.68	0.71	0.70	0.78	0.81	0.77	0.80	0.88	0.82	0.79	0.87	0.89	1.00	1.02	1.00	1.13	1.15	1.06
West Virginia	0.62	0.67	0.72	0.72	0.73	0.76	0.76	0.81	0.83	0.79	0.79	0.92	0.97	1.00	0.93	0.94	0.95	1.03	1.01
Wisconsin	0.71	0.75	0.75	0.79	0.84	0.81	0.77	0.76	0.79	0.75	0.89	0.90	0.96	1.00	1.02	1.01	0.99	1.09	1.10
Wyoming	0.77	0.78	0.74	0.76	0.87	0.90	0.83	0.83	0.92	0.96	0.91	0.96	0.96	1.00	1.11	1.08	1.05	0.99	0.97
48 STATES	0.66	0.69	0.72	0.74	0.80	0.81	0.83	0.79	0.84	0.85	0.92	0.96	1.03	1.00	1.10	1.09	0.96	1.12	1.19

Appendix C.1: *Real Agricultural Output per Unadjusted Hour in Agriculture Based on Scaled Indices*

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Alabama	1.69	1.63	1.92	1.93	2.34	2.19	3.07	3.21	3.20	3.76	4.29	4.46
Arizona	5.97	6.27	7.56	7.91	8.78	8.25	7.75	8.14	8.33	8.48	9.85	10.05
Arkansas	2.26	1.97	2.23	2.47	2.80	3.02	3.65	3.96	3.84	4.06	5.42	5.34
California	6.57	6.66	7.43	8.11	8.30	8.96	9.36	9.75	9.66	9.95	10.25	10.47
Colorado	6.51	6.14	6.55	7.84	7.66	6.83	7.13	7.56	9.30	10.86	11.31	11.56
Connecticut	4.21	4.52	4.95	6.02	6.74	6.83	6.60	6.91	6.79	7.17	7.36	6.98
Delaware	4.96	5.48	6.04	5.93	6.37	6.85	7.42	9.78	9.50	11.10	10.98	11.59
Florida	4.10	4.79	5.36	5.77	6.59	6.53	7.20	7.47	6.56	6.63	7.25	7.16
Georgia	1.78	1.77	2.29	2.26	2.73	2.61	3.39	3.86	3.88	4.61	5.11	5.40
Idaho	6.49	7.16	7.06	7.92	8.78	8.83	9.66	10.01	10.69	11.01	11.24	10.89
Illinois	8.06	7.62	8.35	9.02	9.22	9.67	10.78	12.37	11.88	12.90	13.59	13.73
Indiana	6.61	6.55	7.03	7.41	7.97	8.88	8.99	9.86	9.83	10.49	11.20	12.00
Iowa	9.36	9.75	9.78	11.26	10.73	11.75	12.08	12.08	13.58	14.37	15.65	15.22
Kansas	6.13	6.91	6.60	8.68	6.82	8.02	7.35	7.58	8.26	12.43	11.98	13.78
Kentucky	3.29	3.21	3.54	3.56	3.71	4.08	4.01	4.61	4.46	4.64	5.13	5.17
Louisiana	2.61	2.30	2.93	3.14	3.52	3.58	4.05	4.21	4.07	4.10	4.83	5.05
Maine	3.01	3.05	3.10	3.78	4.32	4.47	4.92	5.35	5.04	4.83	6.32	6.68
Maryland	4.18	4.19	4.65	5.04	5.47	5.86	5.97	6.97	6.45	7.65	7.94	8.42
Massachusetts	3.46	3.63	3.98	4.05	4.81	5.18	5.05	5.24	5.25	5.20	5.39	5.28
Michigan	4.04	3.87	4.11	4.42	4.83	4.90	5.15	5.55	5.62	6.11	6.31	5.99
Minnesota	5.59	5.49	6.04	6.49	6.64	7.24	7.83	8.65	8.89	9.54	9.87	10.17
Mississippi	1.62	1.68	1.87	2.13	2.45	2.21	3.01	2.93	2.88	3.17	4.01	4.08
Missouri	4.53	4.47	4.59	5.04	5.13	5.32	6.24	7.01	6.79	7.50	8.54	8.19
Montana	6.08	7.31	7.51	7.70	9.32	8.60	10.49	9.35	9.64	10.70	10.45	10.07
Nebraska	6.68	7.94	7.65	9.02	8.42	8.88	8.46	8.04	10.60	12.34	12.10	12.45
Nevada	12.17	11.86	12.64	13.04	14.25	13.40	13.36	15.21	15.69	17.06	16.85	16.10
New Hampshire	2.95	3.05	3.24	3.62	4.44	4.83	5.04	5.34	5.04	5.09	6.25	5.75
New Jersey	5.00	5.53	6.09	6.15	7.02	7.21	6.69	8.17	7.69	8.19	8.84	8.46
New Mexico	4.58	4.05	4.66	4.39	4.67	4.96	5.07	5.33	5.69	6.64	7.32	7.36
New York	5.10	5.39	5.61	5.99	6.54	7.06	7.50	7.83	7.89	8.14	8.27	8.60
North Carolina	2.17	2.27	2.71	2.71	2.69	2.79	3.19	3.64	3.17	3.73	3.93	4.31
North Dakota	6.46	7.34	7.90	6.74	7.65	7.69	9.86	10.53	10.51	12.17	9.76	11.19
Ohio	5.48	5.24	5.42	6.13	6.73	7.31	7.43	7.60	7.41	8.06	8.53	8.70
Oklahoma	4.34	3.52	4.00	4.84	4.90	5.23	5.03	5.59	5.61	7.65	7.87	8.99
Oregon	4.55	4.47	4.72	5.16	5.61	5.66	6.04	6.57	6.86	7.31	7.65	7.12
Pennsylvania	3.71	3.75	4.04	4.27	4.56	5.07	5.29	5.70	5.62	6.30	6.42	6.62
Rhode Island	3.32	3.58	3.96	4.25	4.92	5.02	4.82	4.73	4.55	5.02	4.84	4.96
South Carolina	1.79	1.61	2.27	2.17	2.36	2.14	2.67	2.69	2.54	2.72	3.08	3.15
South Dakota	6.71	7.29	8.48	8.26	9.31	9.69	9.77	9.41	12.07	13.15	10.86	13.42
Tennessee	2.34	2.30	2.50	2.57	2.82	2.71	3.21	3.40	3.33	3.68	4.20	4.01
Texas	4.44	3.34	3.68	4.15	4.56	5.04	5.34	5.47	6.10	7.47	7.85	7.85
Utah	5.49	5.80	6.48	7.04	7.39	7.98	8.39	8.83	9.35	9.14	9.81	9.34
Vermont	4.91	4.63	4.98	5.31	5.90	6.43	7.18	6.88	7.31	7.76	8.36	8.45
Virginia	3.11	3.23	3.51	3.68	3.67	3.94	4.09	4.72	4.39	5.04	5.18	5.34
Washington	5.06	5.23	5.20	5.83	6.41	6.63	6.78	6.77	8.09	8.04	8.42	7.96
West Virginia	1.83	1.85	1.97	2.11	2.20	2.52	2.57	2.89	2.93	3.23	3.29	3.24
Wisconsin	5.82	5.64	6.11	6.50	6.79	7.19	7.63	8.01	8.56	8.80	9.68	9.21
Wyoming	7.56	8.06	8.87	9.69	9.51	9.16	9.80	10.14	11.13	12.23	11.99	11.37
48 STATES	4.45	4.43	4.83	5.26	5.53	5.84	6.30	6.73	6.97	7.72	8.15	8.37

Appendix C.1: *Real Agricultural Output per Unadjusted Hour in Agriculture Based on Scaled Indices (Contd.)*

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Alabama	4.78	4.94	5.99	6.39	7.20	7.04	7.87	8.56	9.47	10.25	11.84	12.10
Arizona	11.39	12.51	12.80	12.20	13.28	12.18	12.10	14.33	14.73	15.28	16.08	16.90
Arkansas	6.16	6.63	7.16	8.54	9.56	11.07	11.76	13.36	13.54	14.53	15.67	16.31
California	10.59	11.70	12.34	12.87	12.67	12.92	13.53	13.94	14.05	13.99	14.50	14.67
Colorado	11.92	11.60	11.92	12.87	13.91	15.02	14.94	15.45	17.00	18.70	20.27	21.33
Connecticut	7.00	6.68	7.00	7.09	7.22	7.97	8.41	8.56	8.72	9.26	9.33	8.02
Delaware	11.73	11.55	12.65	13.16	15.07	14.79	19.33	17.15	21.79	22.04	22.28	23.89
Florida	8.37	7.40	7.22	8.21	8.51	10.14	10.61	9.48	10.37	10.92	12.00	12.75
Georgia	5.97	6.06	6.95	7.01	7.77	9.29	10.88	10.85	12.05	12.93	14.83	14.90
Idaho	11.63	11.49	12.38	11.47	12.80	12.58	15.20	16.18	17.68	18.01	19.73	19.28
Illinois	14.43	14.65	15.78	15.94	18.34	18.28	21.47	21.41	22.03	20.15	24.51	24.81
Indiana	12.36	13.05	14.10	13.60	15.01	15.21	17.07	18.21	19.47	18.42	21.50	20.19
Iowa	15.81	15.85	17.48	18.09	18.50	20.28	22.20	23.13	23.18	23.77	26.13	27.28
Kansas	13.76	13.04	13.04	13.64	14.56	14.93	16.87	18.66	20.48	20.22	23.78	24.92
Kentucky	5.55	6.06	6.60	6.17	6.65	6.71	7.15	7.86	8.73	8.54	9.38	10.01
Louisiana	5.32	5.40	6.61	6.40	6.99	8.63	10.12	11.47	11.31	13.09	13.95	14.33
Maine	7.27	7.79	7.83	8.39	8.36	9.29	10.32	11.23	12.00	13.00	14.98	14.68
Maryland	8.81	8.60	8.81	9.59	10.73	10.79	13.04	13.51	14.86	15.24	15.72	15.43
Massachusetts	5.54	5.77	6.07	6.12	5.94	6.25	6.52	6.66	7.07	7.18	7.12	6.89
Michigan	6.51	6.64	6.76	7.53	7.62	7.84	8.22	8.87	9.29	9.60	9.99	10.82
Minnesota	10.73	10.01	11.25	10.64	11.27	12.70	13.69	14.62	14.90	15.64	17.12	17.20
Mississippi	4.60	4.68	5.71	6.20	6.63	7.14	8.63	9.99	10.38	10.92	11.63	11.92
Missouri	8.64	8.46	9.37	9.40	10.38	10.70	11.45	12.95	12.19	12.48	14.77	14.95
Montana	8.85	10.73	11.56	12.24	13.27	13.04	13.43	15.40	15.29	15.85	16.39	16.36
Nebraska	12.01	12.79	13.72	14.11	14.70	17.18	18.29	19.42	21.08	20.93	23.03	23.31
Nevada	16.61	16.42	16.82	16.41	17.00	18.82	16.92	16.62	21.51	21.03	23.04	22.07
New Hampshire	6.20	6.59	6.36	6.58	7.13	7.53	8.44	8.89	9.00	9.25	10.48	11.21
New Jersey	8.62	8.61	8.29	8.07	8.46	8.20	9.34	8.98	9.67	9.40	11.00	7.01
New Mexico	8.11	8.11	8.47	8.04	8.69	9.86	11.14	11.58	12.32	14.09	14.56	15.54
New York	9.02	8.87	9.56	9.85	10.45	11.49	12.30	12.43	12.90	13.35	13.49	12.44
North Carolina	4.49	4.92	5.05	5.54	5.23	5.71	6.86	6.71	7.61	8.39	8.63	9.05
North Dakota	8.59	13.86	13.14	14.03	15.90	14.82	15.51	17.67	18.30	16.81	22.08	19.98
Ohio	8.78	8.92	9.35	9.35	10.31	11.37	11.41	12.28	12.44	12.67	14.49	14.03
Oklahoma	8.61	7.74	8.15	9.31	10.93	10.37	10.48	11.48	11.98	12.49	12.42	13.41
Oregon	7.32	7.39	7.36	7.33	7.96	9.08	9.68	9.40	10.62	10.52	11.40	11.52
Pennsylvania	6.94	6.65	7.04	7.35	8.26	8.18	9.60	9.68	10.58	10.72	11.39	10.74
Rhode Island	5.20	5.76	5.85	5.40	5.96	5.92	5.74	5.95	6.88	7.32	7.37	6.62
South Carolina	3.32	3.62	3.90	4.22	4.47	5.05	6.15	5.87	6.97	7.08	8.39	8.24
South Dakota	13.01	14.32	15.28	14.86	16.60	17.61	19.44	20.41	20.23	20.42	22.82	23.06
Tennessee	4.29	4.39	4.78	4.97	5.30	5.12	5.70	6.06	6.63	6.64	7.30	7.44
Texas	8.09	7.80	8.55	8.82	10.24	10.07	10.75	11.77	11.69	13.42	13.63	15.27
Utah	9.51	10.18	10.64	10.55	11.35	12.25	13.62	13.43	13.84	15.30	16.02	15.66
Vermont	9.35	9.71	10.22	10.17	10.28	10.89	12.16	13.18	14.13	14.84	16.13	16.40
Virginia	5.53	5.84	5.21	5.83	6.09	6.11	7.15	7.51	8.26	8.63	8.70	9.03
Washington	8.08	8.90	9.35	9.25	10.07	11.23	12.51	12.25	12.60	12.25	13.95	14.77
West Virginia	3.29	3.28	3.37	3.60	3.69	3.69	4.39	4.70	5.07	5.07	5.25	5.51
Wisconsin	9.80	10.22	10.07	10.57	11.39	12.06	12.82	13.59	13.46	14.25	15.31	14.98
Wyoming	11.69	12.15	13.02	12.22	12.58	13.14	15.42	15.84	15.19	15.59	17.85	18.33
48 STATES	8.68	8.96	9.52	9.82	10.60	11.23	12.32	13.02	13.59	13.94	15.32	15.64

Appendix C.1: *Real Agricultural Output per Unadjusted Hour in Agriculture Based on Scaled Indices (Contd.)*

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Alabama	12.23	13.17	13.75	14.47	14.87	17.01	18.82	16.51	21.17	20.71	18.15	23.84	21.92
Arizona	19.55	21.57	20.18	25.00	21.95	20.27	19.74	21.79	23.02	20.69	20.27	23.23	23.44
Arkansas	17.73	17.36	19.74	20.11	22.60	21.13	23.69	20.99	26.73	25.67	22.14	27.78	28.50
California	15.32	14.65	14.42	14.25	15.34	15.46	17.00	18.57	18.17	18.14	18.18	19.66	20.39
Colorado	20.40	20.56	22.18	22.53	22.55	23.14	24.35	26.27	25.58	24.91	26.74	29.90	31.72
Connecticut	8.24	8.22	7.74	7.92	7.05	8.88	9.62	10.22	10.28	10.89	11.15	12.58	12.68
Delaware	28.00	27.15	27.47	31.14	30.64	30.02	32.26	29.09	33.75	36.81	38.38	42.13	46.95
Florida	13.23	14.85	16.36	16.66	15.58	13.53	14.13	16.02	14.82	14.09	14.91	14.65	14.94
Georgia	14.36	15.80	14.71	16.07	14.56	18.80	21.48	19.06	23.09	24.27	23.06	26.65	26.49
Idaho	19.53	19.25	20.02	18.35	17.91	23.74	24.55	25.96	26.45	26.59	26.96	27.74	26.63
Illinois	24.37	20.84	27.31	26.03	27.05	30.07	34.21	30.51	36.01	38.15	25.54	35.64	42.71
Indiana	20.68	16.86	20.25	22.50	22.42	26.20	27.30	27.16	27.54	30.75	22.92	31.61	34.38
Iowa	27.06	23.94	24.95	25.26	27.24	31.29	34.17	34.98	39.80	36.85	28.11	34.49	40.56
Kansas	25.85	21.48	22.19	23.21	26.55	24.79	28.81	26.36	27.11	29.13	26.75	30.56	34.85
Kentucky	9.46	10.48	10.59	11.90	12.08	12.46	12.17	12.02	14.03	14.54	9.97	15.02	15.08
Louisiana	13.45	15.20	15.99	18.37	19.86	18.90	21.25	18.94	21.92	23.61	19.92	24.46	22.47
Maine	13.45	14.74	13.42	13.59	13.57	13.22	13.99	14.03	14.00	14.20	13.76	14.53	15.53
Maryland	15.87	15.82	15.56	15.89	15.74	19.44	18.14	18.17	20.69	21.79	20.41	25.87	26.22
Massachusetts	6.59	7.08	7.13	6.65	5.95	6.15	6.62	6.91	7.20	7.33	7.45	8.12	7.85
Michigan	10.53	10.08	11.71	11.32	13.52	14.40	15.37	16.02	16.28	17.47	16.20	19.06	20.49
Minnesota	18.74	15.83	15.93	14.53	20.12	20.48	22.20	21.58	23.46	24.28	21.19	24.98	27.70
Mississippi	12.24	10.50	11.86	12.50	14.54	16.58	20.06	16.18	20.44	22.12	17.26	22.07	22.76
Missouri	15.08	13.14	14.07	13.82	17.72	17.60	19.61	17.50	20.82	19.66	16.30	18.73	23.08
Montana	15.57	17.22	21.01	22.55	21.24	21.99	19.77	21.13	25.41	27.92	25.76	21.91	16.36
Nebraska	23.97	21.31	23.28	24.58	27.23	29.29	31.69	29.30	34.73	34.96	29.57	36.42	40.48
Nevada	22.90	21.96	22.56	21.26	19.79	24.24	25.57	28.43	28.49	32.26	35.00	36.25	34.89
New Hampshire	10.82	10.84	10.57	10.21	9.59	8.18	9.33	9.37	8.75	8.95	9.35	8.91	10.41
New Jersey	7.52	8.70	7.63	7.85	7.23	7.61	7.80	7.42	8.03	8.39	7.45	8.28	9.91
New Mexico	15.75	14.48	15.40	15.52	15.64	14.53	16.07	17.00	16.81	17.18	19.31	20.41	22.11
New York	12.10	12.89	12.65	12.54	12.64	14.58	14.96	15.40	15.19	15.70	16.84	17.60	18.66
North Carolina	10.05	9.98	11.41	11.28	11.05	13.20	12.62	13.41	16.00	16.34	14.85	18.01	18.46
North Dakota	21.13	18.56	21.88	21.66	20.64	24.38	22.51	19.03	30.43	30.91	26.64	32.20	34.47
Ohio	12.48	13.09	15.01	15.18	15.89	18.01	20.29	21.41	20.16	21.79	18.52	24.69	27.83
Oklahoma	15.84	14.93	15.66	15.08	16.90	16.89	21.89	21.43	20.78	21.64	19.12	21.98	23.07
Oregon	11.46	12.57	11.71	12.59	11.07	12.23	12.73	14.37	14.93	14.56	15.64	16.63	16.83
Pennsylvania	10.34	10.49	10.40	10.93	10.78	12.20	13.00	13.26	14.77	15.46	16.32	17.94	20.09
Rhode Island	6.62	7.95	7.94	7.49	6.35	6.21	6.00	6.48	6.61	6.40	6.22	6.44	6.84
South Carolina	8.30	9.29	9.74	10.50	10.33	11.95	13.32	12.39	15.01	14.56	11.46	14.80	16.00
South Dakota	22.91	20.30	18.83	16.88	24.30	25.30	27.64	25.15	27.79	29.21	27.00	32.04	35.01
Tennessee	7.63	7.27	8.35	9.18	9.95	10.92	11.35	10.28	12.59	12.84	10.35	14.14	14.30
Texas	17.95	16.50	18.14	19.19	22.01	18.74	21.73	19.63	23.59	22.48	21.53	22.51	24.27
Utah	16.64	16.67	16.43	16.30	16.00	15.83	16.52	17.77	19.41	18.55	18.62	17.76	18.41
Vermont	15.48	15.68	15.72	16.24	15.70	15.98	16.61	16.52	16.30	17.35	18.27	20.64	20.41
Virginia	9.54	9.64	10.23	9.86	10.36	11.05	12.04	11.63	13.94	13.92	12.50	15.58	15.63
Washington	13.91	14.17	15.50	14.06	14.01	15.36	15.87	18.07	18.66	18.39	20.98	21.45	19.83
West Virginia	5.39	5.82	6.00	5.74	5.72	6.90	7.65	7.93	7.35	7.62	7.61	8.49	8.51
Wisconsin	14.40	14.09	14.57	13.78	16.44	16.78	18.12	19.03	19.25	19.09	19.27	21.46	21.77
Wyoming	16.88	16.84	19.01	19.78	18.91	20.29	20.45	21.61	24.67	24.44	23.91	22.55	22.09
48 STATES	15.99	15.03	16.16	16.31	17.73	18.71	20.28	19.85	21.86	21.99	19.62	23.06	24.72

Appendix C.2: *Real Agricultural Output per Unadjusted Acre in Agriculture Based on Scaled Indices*

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Alabama	48.16	44.38	49.12	46.92	54.01	47.72	67.51	68.65	68.29	79.92	92.59	92.42
Arizona	8.49	8.44	10.51	11.58	12.73	12.18	11.54	12.66	12.83	13.73	14.42	14.83
Arkansas	51.87	45.84	49.22	49.55	52.03	53.14	60.61	58.72	51.51	53.12	65.23	62.25
California	71.41	74.47	83.07	89.28	91.13	96.67	102.10	108.17	108.20	114.14	122.59	124.94
Colorado	22.77	20.93	21.24	24.43	23.01	19.86	20.41	20.76	25.55	29.14	29.53	30.27
Connecticut	403.09	423.28	435.98	453.39	488.69	491.00	480.76	505.35	493.06	516.05	530.13	506.46
Delaware	265.86	288.12	297.25	275.53	290.66	309.83	307.04	389.54	370.39	418.96	397.35	432.66
Florida	38.51	42.81	47.69	48.88	54.06	55.61	65.41	70.21	69.60	73.49	81.16	79.31
Georgia	48.93	47.20	58.39	54.43	61.63	55.52	73.12	83.70	85.07	101.26	114.78	118.24
Idaho	22.83	24.52	23.81	25.99	27.92	28.21	30.61	31.58	33.53	35.06	35.43	34.38
Illinois	185.30	176.09	187.60	196.21	193.22	195.51	208.34	226.31	208.46	219.69	220.58	216.50
Indiana	180.54	178.50	186.14	188.43	194.08	209.87	202.89	211.01	199.49	204.30	208.71	218.30
Iowa	201.91	205.04	200.16	224.86	212.46	226.01	223.49	211.35	232.47	239.37	252.08	242.66
Kansas	52.42	57.24	52.06	65.73	49.27	55.61	48.67	47.31	49.94	74.41	69.44	78.17
Kentucky	118.03	109.52	117.86	114.88	116.68	125.93	120.39	132.05	124.48	125.85	133.51	134.11
Louisiana	47.27	41.85	49.55	51.30	54.99	53.13	58.24	57.82	54.14	55.04	65.01	64.11
Maine	129.18	133.93	130.68	145.39	163.06	156.81	183.40	212.04	224.48	239.12	244.56	255.93
Maryland	190.08	193.10	204.68	209.77	220.91	226.47	221.70	245.85	226.21	254.52	255.66	270.22
Massachusetts	277.14	313.58	341.55	341.38	387.40	400.61	398.42	410.56	414.77	429.86	437.80	429.08
Michigan	124.22	119.72	124.24	131.17	138.04	136.06	141.90	149.44	150.45	162.87	166.36	153.53
Minnesota	126.61	124.17	132.59	139.06	139.18	149.84	160.53	169.36	169.41	179.48	182.95	182.40
Mississippi	55.49	55.28	57.75	62.62	69.06	59.28	78.26	74.57	70.52	75.00	94.60	90.10
Missouri	92.27	89.60	86.32	88.95	85.81	84.86	98.71	106.40	100.84	110.35	120.33	112.76
Montana	12.23	14.11	14.24	14.13	16.61	15.33	18.07	15.92	16.12	17.72	16.46	15.88
Nebraska	57.51	67.24	62.67	71.87	65.73	67.49	62.56	57.03	73.78	84.31	81.77	83.57
Nevada	3.14	3.05	3.31	3.33	3.51	3.22	3.17	3.47	3.48	3.55	3.31	3.25
New Hampshire	91.04	105.12	115.07	126.58	147.72	157.72	175.52	193.72	209.06	234.18	260.60	233.54
New Jersey	480.61	536.40	573.06	554.24	609.45	626.27	575.03	664.08	600.28	648.99	647.01	620.21
New Mexico	6.86	5.90	6.55	6.51	6.56	6.68	6.82	6.89	6.78	8.11	8.57	8.27
New York	177.78	184.16	186.17	191.93	199.95	206.09	208.16	206.47	202.77	208.42	203.01	208.10
North Carolina	149.77	159.54	192.31	191.98	189.78	198.56	227.36	253.54	218.35	254.83	267.03	284.23
North Dakota	37.10	41.01	43.10	35.70	39.74	39.18	47.86	49.42	47.18	54.13	41.51	47.11
Ohio	167.45	158.69	159.51	171.85	182.62	189.43	186.56	183.53	172.08	181.51	185.97	187.87
Oklahoma	47.76	37.85	40.06	45.05	42.81	41.05	38.05	39.42	36.85	49.95	49.14	54.32
Oregon	17.26	17.28	17.78	19.40	20.64	20.60	21.53	22.89	23.52	24.62	25.85	24.07
Pennsylvania	182.48	181.71	188.25	192.11	198.13	212.07	218.19	229.50	222.25	250.71	251.88	253.12
Rhode Island	333.24	346.39	366.28	382.99	426.44	418.17	406.11	402.84	387.68	418.28	407.00	450.39
South Carolina	87.08	80.06	109.66	101.17	106.85	92.47	114.69	111.62	101.88	105.37	116.10	115.35
South Dakota	37.10	39.36	44.59	42.10	46.17	46.68	45.27	41.68	52.62	55.32	44.06	53.65
Tennessee	100.78	94.17	96.83	94.21	99.18	92.06	106.19	109.67	104.94	112.71	127.10	119.30
Texas	37.27	27.94	28.41	28.51	29.73	31.09	31.34	29.38	31.86	36.58	37.30	37.41
Utah	10.57	10.45	11.20	11.54	11.55	11.59	11.92	12.14	12.71	12.55	12.97	12.13
Vermont	126.55	123.45	128.01	131.80	139.65	141.71	154.35	156.52	167.04	177.66	187.31	191.59
Virginia	120.95	120.85	125.91	127.29	120.96	126.49	129.02	144.03	130.39	147.38	146.19	149.06
Washington	42.23	43.34	42.23	45.74	49.27	50.53	50.67	49.69	59.68	60.39	62.62	58.58
West Virginia	46.99	46.50	48.57	49.62	49.40	54.88	53.94	57.39	56.22	60.60	60.42	59.94
Wisconsin	174.85	175.85	187.41	198.84	204.95	214.16	224.66	232.16	240.58	245.40	261.60	239.27
Wyoming	7.62	8.01	8.88	9.35	9.24	8.56	8.99	9.18	9.86	10.62	10.09	9.80
48 STATES	56.25	55.25	57.75	60.13	60.65	61.67	64.49	65.77	66.07	71.71	73.47	73.73

Appendix C.2: *Real Agricultural Output per Unadjusted Acre in Agriculture Based on Scaled Indices (Contd.)*

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Alabama	96.15	96.61	114.20	118.25	126.16	124.70	133.42	140.06	149.63	153.80	171.35	171.22
Arizona	15.52	16.08	16.21	16.05	17.13	15.47	15.80	18.42	19.15	18.75	19.63	20.69
Arkansas	68.64	72.75	76.23	84.73	93.96	97.62	106.39	120.08	126.05	132.97	141.46	145.55
California	127.35	135.20	137.67	142.83	145.45	149.46	146.47	163.01	165.24	164.86	168.85	173.25
Colorado	31.09	29.61	28.64	29.03	29.34	33.10	34.65	35.52	38.95	42.89	44.18	44.98
Connecticut	506.68	506.68	529.63	544.34	597.10	648.69	649.09	697.81	717.58	735.69	732.85	683.08
Delaware	424.55	420.31	449.91	443.97	488.29	448.06	526.64	445.37	532.20	537.83	521.25	555.25
Florida	94.97	85.18	83.40	99.72	107.94	126.48	132.44	113.43	125.47	128.73	139.17	149.45
Georgia	129.49	128.63	152.65	153.64	164.86	173.70	206.72	197.76	212.16	226.02	250.53	241.27
Idaho	37.16	36.91	40.27	38.35	43.11	41.97	46.02	46.50	49.87	51.47	53.98	54.44
Illinois	223.78	225.44	236.94	227.67	248.80	233.96	268.73	253.88	254.33	231.26	275.81	280.34
Indiana	219.10	225.85	238.63	219.46	231.50	222.72	231.28	236.77	244.22	235.61	279.17	272.10
Iowa	250.86	253.05	275.46	276.92	271.10	290.28	302.94	299.65	292.91	294.00	320.87	330.52
Kansas	76.02	70.89	69.54	71.89	74.52	74.85	81.58	86.51	92.42	91.24	107.21	110.72
Kentucky	144.74	157.04	173.56	160.79	164.76	162.84	171.38	173.30	181.69	174.23	186.93	196.25
Louisiana	67.35	65.66	79.10	74.76	75.92	81.44	87.53	93.61	82.60	92.77	100.15	107.12
Maine	280.56	299.80	314.47	336.31	324.86	360.83	379.65	395.75	417.91	448.94	477.35	456.68
Maryland	275.04	274.77	276.09	292.83	321.45	302.25	349.21	347.81	375.56	387.12	389.29	380.77
Massachusetts	440.72	454.13	466.57	470.33	485.30	500.45	513.81	536.11	560.53	564.67	567.41	534.58
Michigan	164.48	162.28	163.79	176.03	168.36	171.37	173.63	181.02	185.78	197.33	199.43	216.38
Minnesota	187.31	172.72	188.98	173.40	175.95	187.07	194.88	203.44	199.97	207.46	227.42	226.19
Mississippi	97.60	95.79	111.54	115.82	113.90	108.21	109.45	119.81	111.58	122.65	128.24	126.38
Missouri	115.82	112.07	120.05	117.26	121.68	120.57	124.94	133.33	120.82	125.47	144.16	142.02
Montana	13.40	16.49	17.77	18.50	19.47	19.82	20.26	21.30	21.29	21.13	22.22	22.06
Nebraska	79.06	82.34	84.49	84.12	84.32	97.47	99.38	100.25	107.14	104.67	114.75	119.57
Nevada	3.00	3.20	3.37	3.44	3.84	3.61	3.87	3.67	4.28	4.46	4.74	4.58
New Hampshire	252.19	261.67	255.07	247.56	268.56	297.00	312.65	315.42	316.22	315.28	333.36	325.53
New Jersey	621.16	625.78	607.86	604.58	626.31	554.61	576.09	546.41	542.37	518.71	575.78	374.66
New Mexico	8.70	8.47	8.66	8.13	8.13	8.73	9.28	9.68	9.81	10.74	10.38	10.78
New York	218.86	212.60	222.52	223.81	244.66	261.47	284.29	290.22	308.63	314.76	314.98	285.02
North Carolina	292.13	310.04	323.47	338.96	303.04	309.26	346.86	316.32	341.45	370.79	366.31	366.19
North Dakota	34.99	57.13	51.95	54.31	60.59	55.01	54.96	60.96	61.37	54.99	71.89	64.84
Ohio	186.14	185.07	190.91	183.50	191.61	203.12	197.69	206.86	202.50	209.59	241.15	235.77
Oklahoma	51.93	44.90	45.50	48.55	55.19	51.27	52.25	55.17	56.18	59.21	57.82	62.79
Oregon	24.53	25.70	25.39	25.91	26.48	27.51	28.19	26.47	29.16	28.34	29.85	27.80
Pennsylvania	258.80	237.98	244.23	245.64	268.85	262.88	311.64	307.96	336.11	346.04	351.11	327.44
Rhode Island	479.52	508.31	531.87	518.29	580.10	593.96	583.90	607.73	641.25	616.57	583.89	516.45
South Carolina	123.20	128.87	130.71	133.04	140.16	138.04	161.78	151.68	174.57	180.25	208.47	203.64
South Dakota	51.02	55.85	58.65	55.22	58.88	61.20	65.69	67.46	66.41	65.07	70.66	69.97
Tennessee	125.17	124.15	137.15	139.43	135.35	127.32	128.03	127.51	129.37	131.41	141.58	145.60
Texas	38.96	37.12	37.78	37.65	41.07	39.38	40.09	43.19	42.04	46.75	44.18	50.24
Utah	12.16	12.77	12.86	12.65	12.97	12.97	13.90	13.60	13.82	14.57	14.65	13.62
Vermont	209.02	217.53	228.54	238.11	240.87	247.84	251.59	259.42	275.68	287.88	303.67	300.70
Virginia	155.37	159.98	141.85	156.81	155.72	144.20	159.00	160.35	169.60	172.72	177.64	183.81
Washington	59.19	63.80	68.24	68.07	68.70	76.47	77.78	75.32	79.56	81.61	88.86	91.45
West Virginia	61.57	60.94	61.46	64.87	65.96	62.86	76.49	80.51	84.97	86.54	89.28	93.22
Wisconsin	247.93	253.02	244.15	247.51	256.15	263.61	272.02	284.54	280.93	293.52	315.07	307.04
Wyoming	9.70	9.96	11.05	10.87	10.95	10.91	12.49	12.41	11.57	11.71	12.83	13.17
48 STATES	75.16	75.96	78.85	78.98	81.41	82.13	85.95	87.51	88.59	89.93	96.55	97.74

Appendix C.2: *Real Agricultural Output per Unadjusted Acre in Agriculture Based on Scaled Indices (Contd.)*

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Alabama	174.28	181.21	190.59	203.06	194.93	207.75	227.71	197.44	253.22	247.95	213.75	278.22	254.84
Arizona	22.48	25.10	21.49	24.46	23.68	23.68	24.12	26.50	27.80	24.84	23.16	25.93	25.60
Arkansas	158.33	156.09	168.77	166.86	182.11	186.24	200.14	171.98	211.25	200.58	167.42	201.86	200.23
California	184.29	191.49	200.18	200.69	201.47	188.39	212.51	225.80	230.30	238.85	228.22	242.71	246.86
Colorado	45.46	44.70	46.15	44.08	44.01	47.34	47.67	49.53	47.94	47.23	48.34	52.21	55.07
Connecticut	717.29	735.14	679.20	689.15	647.06	637.36	654.45	699.82	720.09	757.75	764.13	795.90	815.03
Delaware	624.89	632.88	607.81	656.19	599.36	661.47	721.85	629.38	718.67	771.50	768.66	821.73	884.40
Florida	161.18	166.24	180.10	190.05	183.14	185.04	191.53	210.81	194.69	184.69	184.09	176.22	170.88
Georgia	246.47	275.69	262.26	266.49	231.42	264.09	307.05	261.44	321.30	325.99	292.45	323.14	317.93
Idaho	55.19	55.91	56.76	59.46	56.29	64.82	65.32	70.18	73.24	75.47	75.09	76.12	74.93
Illinois	280.29	241.71	311.20	295.49	312.18	303.94	349.17	299.07	354.14	351.10	227.54	309.23	365.12
Indiana	285.96	242.65	284.06	309.20	312.05	311.78	329.24	322.17	332.06	362.38	258.80	344.79	373.43
Iowa	331.98	291.70	303.46	313.72	331.63	367.04	389.37	383.93	416.36	385.88	292.25	351.47	387.40
Kansas	117.60	99.46	99.65	104.37	116.31	105.77	121.32	112.82	117.34	127.50	112.84	123.66	135.99
Kentucky	184.34	209.88	199.47	222.63	223.49	217.83	211.22	209.51	248.33	261.66	175.05	247.35	237.89
Louisiana	101.75	112.80	110.75	125.35	122.71	121.84	134.85	116.34	135.24	144.79	117.61	140.30	126.20
Maine	444.41	513.70	463.61	483.26	487.74	486.03	510.89	507.08	534.94	554.57	536.43	533.14	576.67
Maryland	411.96	433.22	433.60	451.16	421.77	466.76	484.42	463.21	544.49	544.17	496.25	575.34	585.00
Massachusetts	548.30	572.26	561.62	517.29	474.72	457.13	468.33	487.36	506.58	511.99	523.29	519.04	527.76
Michigan	209.62	210.82	227.31	217.09	239.72	242.00	259.60	262.01	267.62	284.21	246.88	274.51	292.94
Minnesota	257.84	221.97	225.88	211.49	277.65	273.08	278.91	285.25	311.18	315.08	262.28	310.80	325.11
Mississippi	129.51	121.64	122.21	128.39	141.33	138.84	155.05	124.63	153.48	167.43	124.53	153.01	152.54
Missouri	144.41	128.58	135.89	131.09	160.72	158.83	180.98	150.22	178.32	167.18	136.31	153.13	179.74
Montana	20.96	21.63	24.27	24.83	21.92	24.64	21.75	23.08	28.31	29.04	27.03	23.43	17.23
Nebraska	122.49	107.83	114.81	115.43	132.10	139.63	150.25	136.43	156.11	155.18	128.49	156.02	174.08
Nevada	4.69	4.66	4.77	4.87	4.66	5.05	5.26	5.56	5.45	6.03	6.29	6.39	5.99
New Hampshire	324.98	328.06	329.59	317.47	300.51	295.27	323.10	336.50	342.98	373.49	399.36	392.32	409.49
New Jersey	396.36	432.99	385.64	411.24	379.06	363.66	380.09	364.61	416.80	426.78	381.58	425.82	511.51
New Mexico	11.52	10.07	11.03	11.88	12.23	11.92	12.95	12.93	12.73	12.68	13.59	14.50	15.96
New York	290.39	312.79	310.73	308.75	300.50	314.44	339.20	359.26	369.89	386.96	396.11	410.09	433.55
North Carolina	405.97	404.98	419.52	433.17	390.11	441.89	424.84	440.66	497.07	482.80	409.81	479.36	471.52
North Dakota	67.54	60.08	69.54	69.43	66.11	76.25	69.36	53.42	83.92	83.20	70.50	84.18	89.24
Ohio	217.41	238.49	266.09	279.04	285.04	278.04	307.86	310.76	279.03	320.13	259.84	333.79	371.15
Oklahoma	73.15	70.04	70.51	67.89	73.82	66.86	80.33	76.01	76.31	81.62	69.14	75.15	75.55
Oregon	29.02	30.52	31.64	32.93	30.91	32.17	34.46	36.74	38.36	37.67	38.53	39.57	39.56
Pennsylvania	338.42	364.37	356.52	364.41	361.49	371.54	394.18	401.91	444.70	453.24	437.34	480.48	508.85
Rhode Island	482.12	575.36	566.89	529.01	470.56	462.75	454.27	510.94	549.05	559.86	546.91	575.31	626.97
South Carolina	207.21	228.48	240.87	224.29	207.91	230.78	253.77	225.79	284.21	281.32	222.42	291.72	286.27
South Dakota	71.74	64.74	56.48	47.49	68.16	71.10	76.14	69.46	77.69	81.82	75.38	87.55	87.85
Tennessee	146.43	142.59	158.16	170.31	177.10	177.40	185.12	167.66	208.64	213.08	165.29	219.42	227.55
Texas	56.45	50.75	55.11	55.93	63.31	56.25	63.31	55.92	66.16	61.91	56.93	57.89	61.74
Utah	14.29	14.46	14.81	15.30	14.97	16.38	15.68	16.87	18.90	18.51	18.41	17.56	18.27
Vermont	292.04	298.84	291.30	296.22	280.10	282.46	296.55	309.58	316.37	336.61	343.72	338.02	346.90
Virginia	193.41	199.09	200.80	193.21	184.58	208.25	219.75	210.36	249.18	246.13	210.90	250.49	244.51
Washington	90.63	101.30	112.35	114.44	100.54	110.83	113.87	126.80	130.13	128.25	137.34	134.11	119.74
West Virginia	97.54	104.57	102.62	92.49	88.74	93.70	99.22	106.61	104.85	109.50	114.35	124.08	121.69
Wisconsin	292.29	299.26	305.63	290.87	344.42	344.12	363.28	377.28	392.03	399.72	378.61	410.67	417.70
Wyoming	11.92	12.04	12.61	13.10	12.06	12.30	12.32	12.68	13.64	13.33	12.86	12.10	11.87
48 STATES	100.85	96.16	101.80	102.75	108.82	110.46	118.21	113.17	124.38	124.41	106.42	121.35	126.58

Appendix D.1: *Real Agricultural Output per Quality-Adjusted Hour in Agriculture Based on Scaled Indices*

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Alabama	3.42	3.26	3.80	3.82	4.63	4.32	6.06	6.27	6.26	7.38	8.53	8.80
Arizona	14.69	15.42	18.67	19.66	21.85	20.59	19.39	20.47	20.97	21.51	24.81	25.36
Arkansas	4.69	4.11	4.64	5.10	5.75	6.22	7.59	8.18	7.90	8.51	11.40	11.17
California	13.50	13.68	15.27	16.66	17.04	18.38	19.22	20.05	19.89	20.55	21.27	21.77
Colorado	12.99	12.18	12.92	15.43	15.03	13.37	13.95	14.73	18.19	21.23	22.09	22.60
Connecticut	9.15	9.85	10.73	12.93	14.42	14.63	14.18	14.87	14.62	15.47	15.93	15.16
Delaware	10.42	11.54	12.67	12.42	13.35	14.38	15.44	20.27	19.65	22.88	22.54	23.96
Florida	8.75	10.17	11.37	12.17	13.85	13.81	15.28	15.85	14.12	14.35	15.73	15.51
Georgia	3.75	3.71	4.79	4.70	5.65	5.39	7.01	7.99	8.08	9.64	10.85	11.44
Idaho	12.07	13.24	13.01	14.54	16.07	16.17	17.65	18.26	19.48	20.13	20.52	19.99
Illinois	14.68	13.82	15.12	16.29	16.62	17.37	19.28	21.97	21.02	22.79	23.89	24.09
Indiana	12.04	11.88	12.74	13.39	14.36	15.98	16.12	17.60	17.46	18.58	19.79	21.19
Iowa	16.40	16.99	16.99	19.50	18.56	20.24	20.74	20.59	23.15	24.50	26.63	25.86
Kansas	10.41	11.68	11.12	14.58	11.42	13.40	12.23	12.55	13.64	20.60	19.84	22.79
Kentucky	6.73	6.46	7.11	7.12	7.40	8.15	8.01	9.16	8.89	9.30	10.29	10.36
Louisiana	5.46	4.82	6.09	6.51	7.28	7.36	8.32	8.60	8.30	8.48	10.10	10.49
Maine	6.26	6.39	6.47	7.84	8.98	9.23	10.22	11.20	10.72	10.45	13.04	13.78
Maryland	8.81	8.80	9.76	10.55	11.43	12.21	12.39	14.39	13.30	15.71	16.26	17.23
Massachusetts	7.20	7.64	8.38	8.50	10.08	10.83	10.56	10.92	10.94	10.89	11.29	11.08
Michigan	7.80	7.46	7.92	8.50	9.26	9.39	9.85	10.57	10.69	11.62	12.00	11.39
Minnesota	10.23	10.01	10.99	11.80	12.04	13.11	14.13	15.50	15.85	16.96	17.49	17.99
Mississippi	3.19	3.27	3.61	4.10	4.71	4.23	5.78	5.67	5.58	6.18	7.95	8.05
Missouri	8.54	8.40	8.59	9.39	9.55	9.91	11.63	12.97	12.57	13.91	15.77	15.12
Montana	11.92	14.24	14.58	14.87	17.91	16.54	20.04	17.83	18.32	20.34	19.64	18.92
Nebraska	12.08	14.28	13.72	16.14	15.02	15.79	15.01	14.21	18.71	21.78	21.39	22.07
Nevada	24.04	23.36	24.88	25.61	27.93	26.26	26.20	29.78	30.71	33.27	32.76	31.32
New Hampshire	5.72	5.96	6.34	7.06	8.60	9.34	9.77	10.35	9.92	10.15	12.16	11.17
New Jersey	10.66	11.81	12.96	13.07	14.88	15.28	14.18	17.27	16.23	17.36	18.66	17.91
New Mexico	10.56	9.35	10.75	10.23	10.83	11.49	11.82	12.43	13.16	15.56	17.15	17.16
New York	10.59	11.16	11.62	12.40	13.50	14.55	15.40	16.03	16.13	16.69	16.92	17.59
North Carolina	4.57	4.74	5.65	5.61	5.53	5.72	6.55	7.44	6.49	7.65	8.11	8.90
North Dakota	11.38	12.86	13.82	11.76	13.31	13.35	17.00	18.07	17.91	20.73	16.51	18.94
Ohio	10.04	9.58	9.91	11.17	12.24	13.26	13.47	13.75	13.39	14.58	15.44	15.79
Oklahoma	8.06	6.53	7.40	8.93	9.04	9.55	9.19	10.12	10.05	13.84	14.21	16.16
Oregon	8.59	8.42	8.87	9.70	10.52	10.61	11.32	12.31	12.86	13.71	14.40	13.40
Pennsylvania	7.73	7.79	8.39	8.83	9.42	10.45	10.86	11.66	11.47	12.85	13.09	13.46
Rhode Island	7.11	7.65	8.43	9.04	10.42	10.61	10.19	9.99	9.61	10.60	10.27	10.56
South Carolina	3.74	3.39	4.75	4.50	4.87	4.37	5.57	5.68	5.42	5.87	6.75	6.98
South Dakota	11.98	12.97	15.05	14.62	16.45	17.07	17.13	16.40	21.00	22.77	18.72	23.10
Tennessee	4.70	4.54	4.92	5.02	5.52	5.31	6.27	6.66	6.54	7.24	8.36	7.98
Texas	9.60	7.26	7.95	8.88	9.74	10.77	11.42	11.62	13.07	16.00	16.96	17.05
Utah	9.72	10.21	11.37	12.35	12.95	13.97	14.66	15.39	16.30	16.00	17.11	16.30
Vermont	10.04	9.52	10.24	10.91	12.11	13.13	14.59	14.07	14.93	15.85	16.99	17.15
Virginia	6.61	6.82	7.38	7.70	7.64	8.18	8.50	9.80	9.13	10.55	10.86	11.18
Washington	9.16	9.44	9.37	10.48	11.51	11.88	12.11	12.04	14.35	14.29	14.94	14.10
West Virginia	3.88	3.90	4.16	4.42	4.60	5.26	5.36	6.02	6.11	6.77	6.96	6.85
Wisconsin	11.65	11.27	12.18	12.94	13.48	14.23	15.06	15.77	16.78	17.24	18.89	17.88
Wyoming	14.88	15.80	17.40	18.95	18.61	17.86	19.10	19.78	21.71	23.87	23.36	22.23
48 STATES	8.91	8.83	9.58	10.39	10.87	11.47	12.35	13.11	13.55	15.03	15.88	16.28

Appendix D.1: *Real Agricultural Output per Quality-Adjusted Hour in Agriculture Based on Scaled Indices (Contd.)*

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Alabama	9.41	9.71	11.78	12.55	13.89	13.79	15.31	16.64	18.44	19.53	22.15	22.37
Arizona	28.50	31.08	31.74	30.42	33.08	30.32	30.31	35.89	37.05	37.99	39.87	41.83
Arkansas	12.77	13.75	14.78	17.33	19.26	21.40	23.01	26.22	27.07	28.69	30.52	31.33
California	22.08	24.32	25.59	26.76	26.44	26.94	27.91	29.07	29.33	29.31	30.42	30.94
Colorado	23.28	22.53	22.81	24.21	25.65	28.14	28.48	29.43	32.42	35.74	38.13	39.71
Connecticut	15.19	14.59	15.28	15.54	15.86	17.31	17.95	18.38	18.71	19.77	19.90	17.48
Delaware	24.16	23.87	26.10	26.93	30.84	30.09	38.73	34.40	43.60	43.81	43.45	46.19
Florida	18.20	16.13	15.76	18.11	19.01	22.66	23.81	21.18	23.30	24.33	26.53	28.12
Georgia	12.69	12.89	15.12	15.38	16.84	19.16	22.69	22.41	24.74	26.45	29.85	29.41
Idaho	21.51	21.37	23.22	21.78	24.41	23.99	28.25	29.69	32.38	33.04	35.54	35.01
Illinois	25.30	25.74	27.66	27.65	31.32	30.67	35.89	35.25	36.14	32.96	39.73	40.24
Indiana	21.78	22.98	24.83	23.78	25.90	25.84	28.30	29.89	31.71	30.08	35.11	33.26
Iowa	26.82	26.93	29.58	30.34	30.65	33.47	36.17	37.17	37.18	37.91	41.68	43.39
Kansas	22.65	21.44	21.40	22.41	23.73	24.22	27.10	29.60	32.31	32.00	37.69	39.34
Kentucky	11.13	12.12	13.28	12.38	13.11	13.21	14.10	15.12	16.57	16.16	17.66	18.81
Louisiana	11.19	11.35	14.02	13.65	14.89	17.87	20.83	23.74	23.09	25.99	27.37	28.09
Maine	15.04	16.14	16.43	17.64	17.49	19.53	21.48	23.20	24.85	26.79	30.02	29.12
Maryland	17.92	17.54	17.91	19.39	21.56	21.30	25.45	26.10	28.60	29.22	29.76	29.01
Massachusetts	11.60	12.08	12.68	12.83	12.54	13.09	13.56	13.89	14.67	14.94	14.89	14.37
Michigan	12.38	12.60	12.86	14.29	14.22	14.59	15.17	16.25	16.95	17.60	18.06	19.46
Minnesota	18.92	17.66	19.79	18.66	19.59	21.79	23.37	24.95	25.34	26.38	28.71	28.56
Mississippi	9.14	9.39	11.51	12.59	13.58	14.47	16.93	20.02	20.80	22.09	23.20	23.25
Missouri	15.86	15.53	17.08	17.05	18.47	18.86	20.09	22.40	20.99	21.64	25.35	25.42
Montana	16.39	19.96	21.48	22.57	24.27	24.31	25.07	27.82	27.83	28.49	29.84	29.86
Nebraska	21.27	22.61	24.08	24.67	25.45	29.75	31.33	32.80	35.59	35.25	38.78	39.73
Nevada	31.64	31.62	32.45	31.84	33.42	35.67	33.33	32.48	40.99	40.86	44.52	42.85
New Hampshire	12.07	12.78	12.41	12.66	13.71	14.69	16.17	16.84	17.05	17.21	18.88	19.35
New Jersey	18.23	18.26	17.67	17.32	18.13	17.33	19.44	18.74	19.97	19.39	22.42	14.37
New Mexico	18.77	18.74	19.55	18.61	19.83	22.34	25.00	26.32	27.88	31.54	31.90	33.80
New York	18.45	18.10	19.37	19.86	21.01	22.71	24.23	24.43	25.44	26.09	26.16	23.86
North Carolina	9.32	10.20	10.68	11.65	10.95	11.86	14.15	13.74	15.63	17.18	17.38	17.87
North Dakota	14.43	23.42	21.98	23.38	26.44	24.51	25.33	28.70	29.58	26.98	35.39	31.99
Ohio	15.92	16.13	16.92	16.79	18.15	19.76	19.65	21.01	21.13	21.54	24.53	23.70
Oklahoma	15.54	13.86	14.50	16.25	18.95	17.97	18.38	20.00	20.85	21.87	21.58	23.37
Oregon	13.73	13.95	13.86	13.88	15.03	16.94	18.10	17.63	20.02	19.67	21.02	20.59
Pennsylvania	14.04	13.37	14.08	14.64	16.29	16.06	18.89	18.96	20.75	21.03	21.96	20.56
Rhode Island	11.00	11.99	12.13	11.23	12.47	12.54	12.26	12.79	14.58	15.24	15.18	13.64
South Carolina	7.61	8.35	8.99	9.71	10.33	10.99	13.33	12.83	15.32	15.53	18.04	17.51
South Dakota	22.30	24.54	26.11	25.17	27.78	29.39	32.28	33.80	33.63	33.66	37.24	37.39
Tennessee	8.50	8.62	9.49	9.82	10.22	9.95	10.82	11.41	12.35	12.44	13.57	13.88
Texas	17.67	17.01	18.26	18.65	21.11	20.51	21.47	23.33	23.00	26.27	26.08	29.57
Utah	16.61	17.78	18.51	18.42	19.72	20.99	23.31	23.18	24.04	26.20	27.08	26.02
Vermont	18.81	19.43	20.31	20.36	20.56	21.58	23.39	24.95	26.69	27.81	29.79	29.87
Virginia	11.60	12.16	10.82	12.08	12.52	12.37	14.36	15.08	16.61	17.10	17.23	17.72
Washington	14.32	15.70	16.59	16.47	17.70	19.88	21.76	21.41	22.35	21.90	24.47	25.51
West Virginia	6.94	6.87	6.98	7.38	7.53	7.39	8.90	9.54	10.31	10.26	10.49	10.86
Wisconsin	18.92	19.66	19.30	20.12	21.45	22.56	23.81	25.20	25.01	26.25	28.00	27.17
Wyoming	22.59	23.35	25.21	23.93	24.47	25.19	29.36	29.84	28.38	29.17	33.09	34.21
48 STATES	16.88	17.39	18.45	18.96	20.26	21.22	23.10	24.27	25.29	25.84	28.14	28.61

Appendix D.1: *Real Agricultural Output per Quality-Adjusted Hour in Agriculture Based on Scaled Indices (Contd.)*

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Alabama	22.62	23.97	25.30	26.98	27.24	30.62	33.38	28.83	36.57	35.36	30.55	39.67	36.16
Arizona	47.81	52.76	48.58	59.30	52.87	49.39	48.12	52.77	55.34	49.36	47.87	54.55	54.76
Arkansas	33.73	32.80	36.71	37.14	41.48	40.41	44.40	38.72	48.41	46.13	39.19	48.28	48.81
California	32.50	31.55	31.21	30.81	32.80	32.64	35.77	38.63	37.78	37.66	37.31	40.10	41.32
Colorado	38.70	38.72	41.26	41.15	41.32	43.39	44.71	47.34	45.76	44.57	46.70	51.21	53.99
Connecticut	18.09	18.21	17.13	17.56	15.88	18.92	19.96	21.01	21.04	21.97	22.32	24.44	24.72
Delaware	53.14	52.02	52.00	58.32	56.27	57.85	62.21	55.16	63.35	68.35	70.20	76.50	84.35
Florida	29.30	32.17	35.01	35.64	33.30	29.64	30.81	34.64	31.94	30.27	31.52	30.72	30.88
Georgia	28.91	31.93	30.17	32.36	29.10	36.22	41.38	35.91	43.55	44.91	41.79	47.64	47.57
Idaho	35.36	35.09	36.30	34.79	33.75	42.84	43.64	46.12	47.08	47.49	47.67	48.63	47.07
Illinois	39.77	34.11	44.70	42.87	45.19	48.15	55.01	48.34	57.22	59.00	39.12	54.21	64.89
Indiana	34.24	28.22	33.69	37.30	37.55	41.39	43.29	42.71	43.58	48.10	35.12	47.63	51.73
Iowa	43.41	38.42	40.22	41.32	44.47	50.63	54.76	55.33	61.81	57.50	44.03	53.92	61.94
Kansas	41.31	34.64	35.50	37.33	42.47	39.46	45.45	41.68	42.93	46.20	41.84	47.03	52.88
Kentucky	17.82	20.07	19.84	22.34	22.71	23.03	22.21	21.76	25.33	26.20	17.74	25.89	25.45
Louisiana	26.04	28.73	29.70	34.27	36.04	35.27	39.09	34.13	39.24	41.83	34.91	42.60	39.03
Maine	27.19	30.29	27.42	27.97	27.99	27.46	28.56	28.11	28.20	28.42	27.43	28.19	30.19
Maryland	30.14	30.37	30.03	30.88	30.06	35.91	34.41	33.59	38.38	39.25	36.48	44.70	45.58
Massachusetts	14.04	15.04	15.12	14.15	12.82	13.10	13.69	14.03	14.37	14.32	14.28	14.70	14.17
Michigan	18.82	18.23	20.77	20.17	23.61	24.88	26.50	27.22	27.67	29.55	26.87	31.16	33.81
Minnesota	31.42	26.57	26.87	24.76	33.78	34.10	36.08	35.57	38.61	39.53	33.88	40.13	43.47
Mississippi	23.68	20.93	22.99	24.69	28.69	31.56	36.86	29.56	36.78	39.80	30.76	39.11	40.24
Missouri	25.80	22.76	24.16	23.51	29.56	29.32	32.79	28.26	33.41	31.31	25.71	29.18	35.09
Montana	28.54	30.83	36.38	38.25	35.06	37.42	33.28	35.36	42.72	45.45	41.85	35.68	26.29
Nebraska	40.87	36.28	39.30	40.76	45.89	49.21	53.17	48.87	57.14	57.31	47.79	58.22	64.56
Nevada	44.40	43.03	43.80	41.75	38.80	45.73	47.64	51.79	51.07	56.83	60.42	61.64	58.33
New Hampshire	18.76	18.68	18.42	17.79	16.78	15.14	16.44	16.20	15.18	15.44	16.10	15.40	17.01
New Jersey	15.36	17.54	15.44	16.04	14.80	15.21	15.44	14.50	15.70	16.05	14.02	15.32	18.01
New Mexico	35.01	31.70	33.75	34.47	34.71	32.53	35.45	36.45	35.61	35.65	39.10	41.22	44.68
New York	23.46	24.99	24.81	24.80	24.91	28.01	28.86	29.61	29.29	29.99	31.32	32.39	34.09
North Carolina	19.83	19.71	21.85	22.22	21.28	25.17	24.17	25.51	29.86	29.97	26.70	32.20	32.78
North Dakota	33.66	29.72	34.75	34.44	32.76	38.39	35.34	29.01	46.24	46.73	39.89	47.85	50.91
Ohio	21.28	22.62	25.83	26.64	27.83	29.98	33.32	34.30	31.45	34.66	28.80	37.69	42.15
Oklahoma	27.46	26.07	27.10	26.33	29.42	28.55	35.75	34.35	33.66	35.31	30.62	34.32	35.32
Oregon	20.65	22.22	21.33	22.64	20.28	21.95	22.63	24.62	25.13	24.08	25.41	26.70	26.95
Pennsylvania	20.14	20.70	20.57	21.57	21.44	23.73	25.05	25.36	27.97	28.75	29.18	31.97	34.85
Rhode Island	13.44	16.21	16.07	15.09	12.97	12.72	12.08	12.93	13.11	12.64	12.16	12.51	13.26
South Carolina	17.55	19.35	20.60	21.26	20.72	23.93	26.23	23.70	28.80	27.84	21.91	28.43	29.28
South Dakota	37.73	33.76	30.66	26.83	38.85	40.79	44.14	40.19	44.62	46.95	43.24	50.69	53.04
Tennessee	14.11	13.57	15.49	17.03	18.33	19.56	20.00	17.79	21.54	21.57	17.03	22.89	23.40
Texas	34.33	31.46	34.56	36.12	41.41	36.05	40.84	36.19	42.80	40.12	37.60	38.71	41.47
Utah	27.55	27.77	27.55	27.57	26.85	27.42	27.49	29.29	31.98	30.57	30.54	29.11	30.21
Vermont	28.37	28.73	28.72	29.77	28.85	29.63	30.36	30.27	29.81	31.24	32.46	34.49	34.85
Virginia	18.55	18.74	19.62	18.99	19.36	21.26	22.68	21.63	25.55	25.15	22.28	27.39	27.37
Washington	24.23	25.20	27.65	25.84	24.88	27.31	27.95	31.39	32.10	31.39	35.41	36.02	33.27
West Virginia	10.80	11.51	11.85	11.27	11.27	13.12	13.91	14.29	13.25	13.42	13.55	14.76	14.49
Wisconsin	25.86	25.54	26.31	24.98	29.78	30.24	32.17	33.44	33.98	33.89	33.15	36.36	36.83
Wyoming	31.52	31.80	35.13	36.59	34.64	36.72	36.69	38.17	42.34	41.37	40.17	37.79	36.99
48 STATES	29.31	27.65	29.61	29.94	32.37	33.86	36.35	35.14	38.48	38.46	33.77	39.24	41.66

Appendix D.2: *Real Agricultural Output per Quality-Adjusted Acre in Agriculture Based on Scaled Indices*

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Alabama	107.90	100.63	112.67	108.80	126.60	113.01	157.13	157.25	154.36	178.67	205.25	205.86
Arizona	41.96	40.89	49.91	53.93	58.15	54.62	51.46	56.08	56.47	60.08	62.73	64.45
Arkansas	96.08	85.23	91.85	92.84	97.88	100.39	115.42	112.74	99.71	103.71	128.47	121.66
California	115.54	118.30	129.89	137.43	138.08	144.28	150.42	157.29	155.23	161.55	171.04	173.51
Colorado	118.00	109.83	112.86	131.53	125.48	109.70	110.93	111.05	134.55	151.01	150.57	154.02
Connecticut	937.53	985.22	1015.68	1057.35	1141.02	1148.05	1135.35	1205.47	1188.81	1258.45	1309.04	1257.28
Delaware	263.76	286.27	295.85	274.78	290.53	310.61	307.41	389.67	370.25	418.60	396.89	431.44
Florida	98.51	109.42	121.84	124.85	138.06	142.02	165.89	176.93	174.58	183.81	202.26	197.20
Georgia	96.63	94.39	118.19	111.48	127.69	116.31	149.58	167.58	167.24	196.04	219.50	226.17
Idaho	41.93	44.53	42.76	46.22	49.20	49.29	52.60	53.33	55.69	57.27	56.89	54.79
Illinois	97.73	92.77	98.72	103.14	101.46	102.55	109.75	119.79	110.91	117.54	118.75	116.54
Indiana	105.32	103.90	108.13	109.25	112.31	121.22	117.58	122.72	116.46	119.76	122.88	128.80
Iowa	107.93	109.59	106.97	120.15	113.52	120.74	119.75	113.60	125.37	129.57	136.99	130.88
Kansas	113.53	123.99	112.75	142.33	106.66	120.32	105.25	102.27	107.85	160.52	149.58	168.42
Kentucky	131.64	122.29	131.74	128.55	130.70	141.22	134.06	146.32	137.59	139.12	147.95	147.76
Louisiana	90.15	79.95	94.85	98.39	105.68	102.30	111.16	109.38	101.53	102.39	119.99	118.66
Maine	299.12	307.42	297.48	328.42	365.53	348.82	396.62	448.28	466.18	489.85	496.01	520.79
Maryland	243.65	247.27	261.98	268.46	282.75	289.97	284.89	317.13	292.79	330.39	332.11	351.01
Massachusetts	589.40	648.41	688.96	673.73	749.95	762.53	746.35	760.43	762.85	788.14	803.07	791.97
Michigan	168.18	160.09	164.25	171.62	178.86	174.66	180.57	188.98	189.55	204.92	209.52	193.84
Minnesota	121.24	118.17	125.45	130.87	130.34	139.67	148.45	155.57	154.79	163.32	165.94	165.95
Mississippi	110.41	111.88	118.86	131.01	146.87	128.11	166.10	155.50	144.59	151.30	187.94	180.43
Missouri	102.97	100.69	97.68	101.32	98.38	97.94	112.25	119.41	111.90	121.29	131.24	122.78
Montana	70.75	81.30	81.71	80.73	94.51	86.83	101.73	89.16	89.80	98.29	90.85	87.12
Nebraska	99.61	116.54	108.69	124.73	114.16	117.26	107.93	97.62	125.22	141.72	136.04	139.54
Nevada	15.55	15.22	16.70	17.06	18.26	17.05	16.88	18.54	18.67	19.13	17.91	17.20
New Hampshire	290.13	322.02	339.90	361.57	409.27	424.51	448.20	471.52	486.26	522.01	558.78	501.78
New Jersey	663.72	740.56	790.86	764.52	840.25	862.94	793.59	918.30	832.18	902.56	903.22	865.12
New Mexico	76.36	65.92	73.42	73.26	74.08	75.79	76.79	77.00	75.22	89.39	93.65	89.98
New York	361.85	375.58	380.42	392.97	410.19	423.70	431.73	431.67	427.39	442.95	434.99	445.95
North Carolina	247.24	260.48	311.03	308.10	302.63	315.04	355.33	390.84	332.59	384.14	398.89	426.33
North Dakota	82.97	91.72	96.39	79.84	88.89	87.63	107.10	110.64	105.68	121.31	93.06	105.47
Ohio	127.80	121.09	121.70	131.10	139.29	144.47	142.40	140.24	131.64	139.04	142.67	144.43
Oklahoma	136.50	109.11	116.47	132.05	126.53	122.32	113.18	117.01	109.14	147.64	144.91	161.74
Oregon	32.28	31.95	32.52	35.10	36.95	36.52	37.78	39.77	40.46	41.96	43.61	40.32
Pennsylvania	312.23	311.89	324.09	331.67	343.03	368.24	374.49	390.80	376.65	423.91	425.75	429.09
Rhode Island	568.19	590.76	624.87	653.57	728.43	714.89	697.91	698.14	678.02	713.04	676.05	737.93
South Carolina	195.31	179.68	246.34	227.59	240.77	208.86	259.94	253.81	232.42	241.16	266.56	266.06
South Dakota	110.21	117.05	132.76	125.48	137.76	139.44	135.60	125.22	158.53	167.16	133.55	162.56
Tennessee	126.80	119.52	123.97	121.64	129.17	120.97	137.58	140.43	133.11	141.95	159.29	149.58
Texas	182.89	136.29	137.74	137.34	142.28	147.71	148.56	138.98	150.39	172.30	175.29	175.73
Utah	30.96	30.59	32.85	33.93	34.11	34.44	35.32	35.90	37.49	36.93	38.06	35.46
Vermont	433.61	423.22	439.10	452.38	479.62	487.04	518.78	515.68	540.15	564.60	586.41	589.27
Virginia	213.19	216.67	229.30	234.85	226.14	239.51	242.35	269.00	242.73	274.12	272.26	277.78
Washington	78.63	79.65	76.62	81.96	87.21	88.29	86.05	82.20	96.35	95.30	96.68	89.89
West Virginia	161.83	163.02	173.19	179.77	181.77	205.18	199.67	210.75	205.22	220.31	219.23	217.12
Wisconsin	228.95	227.30	239.34	251.20	256.32	265.30	276.19	283.54	292.25	296.86	315.49	288.81
Wyoming	66.61	70.53	78.66	83.28	82.69	77.06	79.97	80.71	85.62	91.09	85.65	82.78
48 STATES	113.40	111.37	116.45	121.33	122.53	124.83	129.90	131.86	131.89	142.59	145.55	146.03

Appendix D.2: *Real Agricultural Output per Quality-Adjusted Acre in Agriculture Based on Scaled Indices (Contd.)*

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Alabama	215.19	217.22	257.95	268.31	278.55	268.36	280.15	287.16	300.24	309.71	346.37	347.47
Arizona	67.42	69.77	70.26	69.51	73.98	66.60	67.82	78.88	81.76	79.95	83.59	88.03
Arkansas	133.15	140.08	145.73	160.80	171.83	172.37	181.68	198.64	202.63	212.74	225.20	230.55
California	175.92	185.86	188.40	194.69	197.52	202.23	197.50	219.09	221.39	220.40	225.21	230.52
Colorado	157.88	150.09	144.91	146.59	146.74	164.09	170.32	172.95	187.87	207.14	213.66	217.78
Connecticut	1264.45	1271.28	1336.22	1380.78	1457.90	1528.86	1483.90	1552.78	1562.68	1598.23	1587.93	1476.87
Delaware	422.65	417.83	446.69	440.44	485.25	446.38	526.25	446.84	536.35	538.07	518.83	550.60
Florida	235.71	210.99	206.20	245.88	265.60	310.65	324.70	277.47	306.19	313.94	339.24	364.15
Georgia	247.81	246.30	292.50	294.63	309.85	320.08	373.64	350.71	369.98	395.03	438.94	423.89
Idaho	58.76	57.95	62.88	59.53	66.36	64.07	69.70	69.90	74.54	76.68	80.18	80.59
Illinois	120.45	121.33	127.51	122.51	132.89	124.09	141.61	132.97	132.43	119.82	142.23	143.91
Indiana	129.56	133.86	141.80	130.76	137.19	131.33	135.73	138.33	142.10	136.39	160.76	155.89
Iowa	134.37	134.67	145.72	145.68	141.82	151.06	156.90	154.52	150.43	150.94	164.68	169.58
Kansas	163.80	152.80	149.94	155.02	158.61	157.31	169.38	177.44	187.42	185.18	217.80	225.15
Kentucky	158.62	171.23	188.35	173.77	176.82	173.57	181.49	182.39	190.08	182.69	196.45	206.69
Louisiana	124.99	122.18	147.60	139.89	140.75	149.60	159.30	168.77	147.62	164.21	175.58	186.11
Maine	572.84	614.22	646.49	693.94	668.67	741.38	779.09	811.57	856.90	914.67	965.78	918.06
Maryland	357.20	356.82	358.48	380.12	415.22	389.65	448.82	445.02	478.62	492.39	494.08	482.27
Massachusetts	819.43	851.50	883.23	900.22	907.23	916.20	922.71	968.39	1019.41	1018.55	1016.83	952.67
Michigan	208.22	206.01	208.54	224.78	212.79	214.45	215.23	222.34	226.39	240.02	242.12	262.23
Minnesota	170.95	158.17	173.70	160.01	160.93	169.65	175.35	181.71	177.40	183.56	200.68	199.08
Mississippi	197.04	194.95	228.84	239.55	231.47	216.20	214.90	231.25	212.04	231.47	240.53	235.58
Missouri	125.91	121.64	130.11	126.88	129.86	127.14	130.39	137.82	123.79	129.00	148.78	147.22
Montana	73.11	89.45	95.80	99.23	103.96	105.36	107.16	112.12	111.54	111.08	117.20	116.75
Nebraska	132.49	138.52	142.69	142.63	141.64	162.16	163.85	163.82	173.31	167.92	182.53	188.58
Nevada	15.46	16.09	16.55	16.43	18.41	17.38	18.70	17.81	20.80	21.70	23.03	22.25
New Hampshire	543.81	567.10	556.34	544.09	585.49	643.45	674.57	678.98	680.27	674.35	709.20	689.38
New Jersey	865.71	871.40	845.71	840.44	867.69	765.95	793.53	751.05	743.94	711.57	789.98	514.13
New Mexico	94.31	91.46	93.05	87.01	86.92	93.13	98.83	102.96	104.19	114.13	110.33	114.72
New York	469.08	455.76	477.16	480.10	509.62	529.10	560.45	558.62	581.27	594.78	597.26	542.43
North Carolina	439.98	468.92	491.31	517.04	458.91	465.03	517.95	469.17	503.39	545.19	537.12	535.52
North Dakota	78.22	127.52	115.81	120.90	133.71	120.42	119.34	131.33	131.24	117.31	153.05	137.74
Ohio	143.40	142.89	147.73	142.33	146.65	153.49	147.61	152.72	148.08	152.36	174.18	169.21
Oklahoma	156.15	136.33	139.47	150.21	168.17	153.94	154.59	160.88	161.46	170.30	166.40	180.80
Oregon	40.81	42.49	41.74	42.36	43.33	45.04	46.20	43.43	47.90	46.59	49.11	45.76
Pennsylvania	440.68	407.68	421.74	428.29	460.71	443.01	516.98	503.32	542.15	559.55	569.18	532.23
Rhode Island	775.65	812.76	841.55	812.32	910.64	933.97	919.78	959.21	1014.69	977.88	927.84	822.21
South Carolina	285.54	300.14	305.93	312.80	323.68	313.20	360.76	332.88	378.38	389.33	448.64	436.83
South Dakota	154.54	169.11	177.55	167.12	177.38	183.51	196.12	200.52	196.52	193.05	210.20	208.70
Tennessee	157.01	155.81	172.21	175.17	169.61	159.16	159.66	158.66	160.61	162.96	175.39	180.19
Texas	182.89	174.20	177.19	176.57	190.07	180.07	181.50	193.41	186.06	207.72	197.05	224.88
Utah	35.44	37.14	37.33	36.66	37.67	37.81	40.61	39.78	40.45	42.67	42.95	39.97
Vermont	631.27	645.61	667.02	683.96	679.02	686.47	685.51	696.11	729.05	757.98	796.55	786.00
Virginia	289.74	298.55	264.88	293.02	286.18	260.64	282.95	281.29	293.26	296.73	303.22	311.71
Washington	90.24	96.64	102.75	101.92	101.74	112.12	112.99	108.35	113.28	115.35	124.96	128.00
West Virginia	222.73	220.21	221.99	234.31	224.87	202.25	233.25	233.70	235.39	239.11	246.12	256.38
Wisconsin	299.54	305.97	295.52	299.85	307.79	314.17	321.78	334.30	327.90	340.64	363.69	352.62
Wyoming	81.60	83.53	92.20	90.20	90.90	90.66	103.86	103.27	96.40	97.94	107.66	110.92
48 STATES	148.82	150.38	156.08	156.33	159.99	160.28	166.60	168.48	169.43	172.00	184.67	186.92

Appendix D.2: *Real Agricultural Output per Quality-Adjusted Acre in Agriculture Based on Scaled Indices (Contd.)*

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Alabama	355.13	370.81	385.00	405.01	383.91	404.09	443.42	384.91	494.17	484.44	418.11	544.78	499.44
Arizona	95.60	106.70	90.93	102.88	99.14	98.89	101.10	111.40	117.34	105.43	98.92	111.58	110.81
Arkansas	249.67	244.99	262.50	257.27	278.42	282.34	305.71	264.84	328.14	314.48	265.29	323.26	323.98
California	244.56	253.83	262.58	260.24	257.90	238.15	268.19	284.52	289.77	300.04	286.23	303.95	308.76
Colorado	220.34	216.89	220.85	207.97	204.68	217.00	219.33	228.67	222.08	219.53	225.29	243.99	257.91
Connecticut	1547.44	1582.42	1460.28	1480.13	1388.44	1366.38	1402.74	1499.85	1543.36	1624.31	1638.43	1707.07	1748.69
Delaware	618.06	624.82	600.09	647.89	591.83	653.28	712.49	621.00	708.87	760.65	757.56	809.65	871.22
Florida	392.56	404.74	436.95	458.35	438.37	438.90	456.65	505.57	469.81	448.84	450.78	434.45	423.79
Georgia	434.24	487.30	460.17	464.43	400.76	454.78	528.82	450.73	554.91	564.49	508.19	563.71	556.75
Idaho	81.33	82.05	82.09	84.66	79.21	90.15	90.72	97.35	101.47	104.42	103.75	105.05	103.24
Illinois	143.30	123.12	158.31	150.13	158.43	154.11	177.05	151.67	179.65	178.19	115.55	157.13	185.68
Indiana	163.02	137.71	160.81	174.56	175.69	175.11	184.72	180.58	185.96	202.78	144.70	192.65	208.53
Iowa	170.28	149.58	154.89	159.41	167.80	184.96	196.67	194.40	211.37	196.42	149.17	179.90	198.87
Kansas	239.23	202.31	202.03	210.70	233.53	211.21	240.56	222.22	229.60	247.81	217.87	237.26	259.36
Kentucky	194.58	222.03	208.46	230.10	228.76	220.92	214.96	214.00	254.64	269.50	181.17	257.19	248.47
Louisiana	175.18	192.49	186.93	209.13	202.29	198.47	220.61	191.15	223.14	240.15	196.10	235.06	212.39
Maine	888.06	1021.32	917.11	951.10	955.16	947.14	993.00	982.90	1033.49	1067.43	1028.57	1018.69	1098.82
Maryland	521.15	547.53	547.70	569.53	532.04	588.32	610.88	584.54	687.68	688.28	629.03	731.21	745.83
Massachusetts	972.12	1010.52	983.27	898.15	841.13	850.11	859.24	897.90	920.66	918.36	926.62	907.29	927.33
Michigan	253.61	254.67	273.92	260.95	287.44	289.49	312.88	318.49	328.42	353.02	310.98	350.77	380.12
Minnesota	226.40	194.45	197.24	184.07	240.92	236.26	241.23	246.65	269.01	272.33	226.66	268.57	280.93
Mississippi	239.76	223.70	222.61	231.63	252.69	246.16	277.05	224.50	278.80	306.96	230.44	285.54	286.86
Missouri	150.37	134.54	140.35	133.73	162.04	158.31	180.91	150.65	179.44	168.89	138.29	156.05	184.07
Montana	111.27	115.15	127.87	129.40	113.20	126.10	111.21	117.86	144.44	147.97	137.60	119.14	87.55
Nebraska	191.48	166.98	175.16	173.33	195.02	202.37	216.21	194.94	221.48	218.60	179.77	216.83	240.35
Nevada	22.75	22.59	22.93	23.16	21.94	23.63	24.65	26.11	25.62	28.41	29.69	30.16	28.34
New Hampshire	685.65	690.09	688.02	657.78	618.21	603.22	661.19	691.09	708.56	778.92	843.89	841.79	892.51
New Jersey	543.97	594.36	528.75	563.32	518.79	497.26	517.48	494.46	563.35	574.81	512.14	569.93	683.06
New Mexico	122.60	107.17	116.70	125.06	128.08	124.02	135.46	135.86	134.28	134.32	144.64	154.97	171.11
New York	554.62	599.59	592.65	585.89	567.24	590.53	631.38	663.01	677.02	702.26	713.18	733.05	770.08
North Carolina	592.26	589.43	605.60	620.59	554.66	623.31	599.45	622.12	702.35	682.99	580.58	680.13	670.12
North Dakota	143.19	127.14	147.39	147.41	140.62	162.49	148.14	114.35	180.09	179.04	152.15	182.24	193.82
Ohio	155.18	169.37	188.44	197.04	200.67	195.15	215.70	217.39	194.87	223.21	180.86	231.96	257.53
Oklahoma	210.78	201.94	203.95	197.00	214.94	195.35	235.39	223.42	224.99	241.44	205.23	223.82	225.70
Oregon	47.79	50.28	51.88	53.76	50.28	52.13	55.85	59.57	62.22	61.14	62.58	64.33	64.37
Pennsylvania	551.54	595.40	580.73	591.67	585.00	599.36	635.95	648.58	717.87	732.00	706.70	776.86	823.29
Rhode Island	768.94	919.44	895.33	826.86	728.33	709.83	698.95	788.68	850.46	870.39	853.41	901.24	985.95
South Carolina	443.29	487.61	511.48	473.82	436.60	481.64	527.63	467.68	586.98	579.45	456.66	597.35	584.74
South Dakota	214.50	194.02	169.23	142.26	204.14	212.88	227.53	207.15	231.25	242.99	223.32	258.80	259.11
Tennessee	181.03	176.11	193.95	207.44	214.29	213.39	222.39	201.15	250.01	255.02	197.59	262.01	271.44
Texas	253.52	228.71	246.22	247.64	277.62	244.18	277.95	248.65	298.27	283.24	264.21	272.15	293.85
Utah	41.95	42.49	43.38	44.60	43.35	47.03	45.10	48.57	54.47	53.46	53.28	50.89	53.04
Vermont	760.57	775.46	757.15	771.96	732.81	742.51	779.99	815.47	835.43	892.51	915.64	905.38	934.79
Virginia	326.05	333.88	334.94	320.51	304.59	341.85	361.85	347.45	412.87	409.28	352.05	419.33	410.28
Washington	126.11	140.08	153.82	155.02	134.77	146.92	152.56	171.58	177.86	177.26	192.14	189.96	171.42
West Virginia	267.61	286.26	279.14	249.95	238.25	249.93	265.55	286.18	282.63	296.61	311.47	340.13	335.24
Wisconsin	333.99	340.28	346.22	328.26	387.23	385.44	406.81	422.43	438.91	447.53	423.94	459.90	467.88
Wyoming	100.80	102.34	106.01	108.75	98.92	99.90	100.37	103.66	111.91	109.77	106.29	100.46	98.85
48 STATES	192.80	183.80	193.15	193.44	203.23	204.64	219.43	210.54	231.99	232.71	199.69	228.44	239.03