WAGE DETERMINATION FOR REGULAR HIRED FARM WORKERS: AN EMPIRICAL ANALYSIS FOR GEORGIA

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Abstract

Regular hired farm workers, performing 150 days or more of farm work annually, became increasingly important in the 1970's. The number of regular hired workers in the United States increased by almost 50 percent during the decade, while the number of seasonal workers, operators, and unpaid family workers declined. Pricing of regular hired labor is investigated through estimation of three nested wage determination models in a case study analysis for Georgia. Micro-level data on individual workers were used to analyze the effects of general human capital, farm worker duties, local labor market conditions, and farm characteristics on wage rates.

Key words: farm labor, wage determination, human capital.

One trend in farm labor that has been observed in recent years is the increasing importance of hired farm workers relative to family and operator labor. The proportion of all farm workers that was hired increased from 26 percent in 1971 to 38 percent in 1982 (Martin). Regular farm workers, working 150 days or more at farm work per year, also increased in importance relative to seasonal workers. The average number of seasonal workers employed in 1979 and 1981 declined 9 percent from the 1969-71 average, while the number of regular hired workers increased by 47 percent in the corresponding years (USDA, November 1983, p. 20). Increases in skill requirements (Emerson, 1985) and wage rates of hired workers also occurred over this time period. Expenditures for hired farm worker wages were valued at almost $10 billion in 1981 (USDA, May 1983), and 75 percent of the total earnings of United States farm workers accrued to regular farm workers in that year (USDA, November 1983).

This research on the determination of wages for regular hired workers was motivated largely by the recognition of their increasing importance in agriculture. Erven has pointed out the need for research on farm labor compensation, particularly with respect to regular workers for which the competition with the nonfarm sector is greatest. The Agricultural Employment Work Group (AEWG) also emphasized the importance of a competitive farm wage in maintaining a productive farm workforce.

This study employs micro-level data from a survey of Georgia farm operators in an empirical analysis of regular farm worker wages. Three nested wage functions were estimated to analyze the effects of human capital, employer characteristics, and local labor market conditions on hired farm worker wages. Two primary components of the analysis focus on systematic influences affecting the dispersion of wages across individuals, after controlling for human capital, and on the effect of differences in farm worker duties on wage rates.

RELATED LITERATURE

Much of the literature relevant to this analysis is related to the theoretical foundations and empirical estimation of wage functions. This work is discussed in later sections of the paper. Wage and earnings analyses specific to agricultural labor are not common. Emerson (1984) published an earnings regression for Florida farm workers using micro-level data from 1971-72. This study employed a variant of the human capital

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model and estimated total earnings of farm workers from farm and nonfarm sources. Matta reported a total earnings function for United States farm workers, using 1975 *Hired Farm Working Force* micro-level data. This study differs from the work of Matta and Emerson in its focus on wage rates for regular workers rather than annual earnings of seasonal and regular workers and due to its greater emphasis on the effect of duties performed on wage rates.

THEORETICAL FRAMEWORK

The starting point for much of the empirical literature on wage determination is human capital (HC) theory. Becker, Joll et al., and other references provide discussions of HC wage determination theory. Joll et al. (p. 250) emphasize the central role of individual worker productivity in their description of the simplest HC wage determination model. That is, "*... in a competitive labor market individuals will be paid according to their marginal productivity; they increase their productivity by undertaking human capital investments; therefore, wages depend on the amount of investment undertaken.*"

The major deviation from sole reliance on worker productivity as the determinant of individual wages in a competitive market in the HC model is recognition of the impact of working conditions on wages. Jobs with less desirable working conditions require compensating wage differentials to attract workers. Layard and Walters cite productive characteristics of the individual and nonmonetary attributes of the job of that individual as the determinants of the individual wage rate.

In the competitive market, the interaction of aggregate labor supply and demand determine the market price of skills and the skills possessed by the individual determine the wage rate for the individual, with adjustment for working conditions in individual jobs. In the long run, competition among workers and employers tend to equalize wages for workers with the same level of HC, after controlling for working condition differences.

The perfectly competitive assumptions behind the basic HC model have given impetus to challenges to and modifications of the paradigm. Institutional economists have challenged HC wage determination theory on the grounds that perfectly competitive conditions do not exist. Critics have cited the presence of internal labor markets (Doeringer and Piore), monopoly power in product markets (Weiss), unionization (Wachtel and Betsey), and discrimination (Smith et al.) as additional factors which influence wage rates.

Labor search theory, in contrast, maintains the essence of HC wage determination theory while relaxing one of the perfectly competitive assumptions of the simple model. Search theory explicitly recognizes the absence of a Walrasian price-auction mechanism in labor markets and the resulting uncertainty and cost of information that exists in these markets (Wharton, p. 86; Joll et al., p. 73). Introduction of incomplete knowledge and costly information inhibits the competitive adjustment in the simple HC model which would result in equal wages for identical workers. Search theory is based on the *a priori* assumption of a dispersion of wage rates for homogeneous labor even if labor supply and demand are stable for indefinitely long periods (Stigler) because of incomplete knowledge and costly information. Pissarides (p. 169) cites two major reasons for the existence of wage variability for similar workers across firms, given economic barriers to wage equalization: stochastic shocks in the demand for output and productivity differences among similar workers when employed by different firms.

ESTIMATION OF WAGE FUNCTIONS

Disagreements on the assumptions underlying HC wage determination theory have implications for the empirical estimation of wage functions, but even where agreement exists, differences remain in the application of the theory in empirical work. Educational attainment is consistently included as a readily quantifiable component of human capital, but many factors which are logically associated with worker productivity are more difficult to quantify. Among these are quality of education, native ability, motivation, on-the-job training, and experience. Proxies have been used for several of these factors, but difficulty in measuring human capital remains and is cited as one reason for the sometimes low explanatory power of HC based wage equations (Siebert). Some critics of the human capital paradigm have challenged the scientific nature of the theory on the grounds that it is not subject to falsification due to these measurement problems (Williams). Few critics completely deny the relevance of worker productivity to wages, however, and HC theory is at least a component of most empirical wage analysis.

ESTIMATION OF WAGES FOR REGULAR HIRED FARM WORKERS IN GEORGIA

Results from three nested wage functions for Georgia regular hired farm workers, using 1982 data, are reported. The first specification is a simple form of the HC model while the second specification adds information on duties performed by workers and the third specification adds variables related to local labor market conditions and the productivity of workers on individual farms.

The third model explicitly includes factors related to possible influences on wages that are not directly related to individual human capital. This specification attempts to identify a systematic component of the dispersion of wages across individuals, after controlling for measurable human-capital attributes. This dispersion of wages is hypothesized due to the existence of incomplete knowledge and information costs cited in labor search theory. The atomistic structure of agriculture, with small geographically dispersed employers, is logically a structure that would result in high information costs. Additionally, the hiring methods used by farm operators appear to be informal and potentially inefficient (Martin). The survey used for this analysis indicated that the dominant method used by farm operators to locate new workers was to ask friends or current workers (Gunter et al.), a method which restricts circulation of information.

MODEL SPECIFICATION

Model I is a simple human capital model. The specification of the model is one that is frequently used (Siebert, p. 42), with the following implicit form:

(1) $\ln W = f(\text{EDUC}, \text{EXPER}, \text{TENURE})$,

where:

- $\ln W$ = the natural log of the hourly compensation of each worker, including the estimated value of perquisites;
- EDUC = the last year of schooling completed by each worker;
- EXPER = a work experience proxy, calculated as the worker's age minus years of schooling minus five (Joll et al., p. 273); and
- TENURE = the number of years the worker has been employed on the current farm.

Education is expected to be positively related to the wage rate due to its productivity increasing impact. Similarly, EXPER is a proxy for general on-the-job training and TENURE is a proxy for specific on-the-job training. Both types of training are expected to have a positive impact on productivity and wages. Linear and quadratic terms for these variables are included in the model to trace experience-wage and tenure-wage profiles.

Model II is an augmented human capital model constructed by appending a set of farm worker duty variables to the variables included in Model I. The addition of duty information was motivated by theoretical and empirical considerations. Duties performed by workers can be viewed as human capital variables in that they imply a set of skills for a worker. Given the lack of information on worker ability and motivation and the imprecision of the general and specific on-the-job training proxies, duties performed may represent the best delineation of human capital differences for jobs that are only tenuously related to formal education. Duty categorizations also introduce some homogeneity of working conditions into the analysis. Empirically, information on the impact of performing different duties on wage rates is interesting in assessing the market for different types of farm workers.

Information on the duties performed by farm workers was obtained by asking farm operators which of the following duties were considered primary duties of each worker: bookkeeping/office help, packing/sorting fruits and vegetables, supervising others, minor machinery repair/maintenance, operating machinery, tending livestock/poultry, major machinery repair, fieldwork, skilled labor, or unskilled labor.

Multiple primary duties were possible for each worker. Primary duties were included in Model II as zero-one dummy variables, with a value of one for each primary duty performed. Since time spent on each duty was not obtained, linear and quadratic terms for the number of primary duties performed by each worker were included in the model to control for worker specialization. This required excluding one of the duty variables listed above from the model to avoid perfect multicollinearity, since the sum of the duty dummy variables would exactly equal the number of duties performed for each worker. The unskilled labor dummy variable was chosen for exclusion from the model, since all workers were expected to possess the human capital requisite for this duty. The coefficients of the remaining duty variables therefore represent the wage impact of each duty, with no direct wage adjustment associated with the performance of unskilled labor.

Implicit specification for Model II was:

$$(2)\ \ln W = f\,(\text{EDUC, EXPER, TENURE; D1, ..., D9; SPEC}),$$

where D1 through D9 represent dummy variables for the performance of the primary duties listed, excluding unskilled labor, and SPEC represents linear and quadratic terms for the number of primary duties performed by each worker.

Since higher wages are hypothesized for workers with greater skills, *ceteris paribus,* coefficients of variables representing higher skilled duties should be higher. Specialization is generally associated with increased productivity, so a negative relationship between the wage rate and the number of duties performed is hypothesized, although the inclusion of the quadratic term for number of duties permits a nonlinear relationship.

Wage Model III adds variables to capture systematic wage variations not directly related to the individual's human capital attributes. Two variables related to local labor market effects were added to this specification, a local unemployment rate and a local nonagricultural average wage rate. Two variables related to differences in hired worker productivity on different farms were also added to Model III, operator's educational attainment and the average value productivity of hired workers on the employing farm.

The implicit specification of Model III was:

$$(3)\ \ln W = f\,(\text{EDUC, EXPER, TENURE; D1, ..., D9; SPEC, UN, ALTW, OPED, AVP}),$$

where:

- UN = the average unemployment rate for the county of employment of each worker for the survey year,
- ALTW = the average nonfarm hourly wage rate for the county of employment of each worker for the survey year,
- OPED = the last year of education completed by the operator of the employing farm, and
- AVP = the average value product of hired labor on the employing farm.

Local labor market variables were added to the third model because differences in the general level of wage rates or unemployment in an area could potentially impact the wages of similar workers in different areas, given the costs of job mobility. The average unemployment rate for the county of employment is a proxy for local job alternatives for each worker. A higher unemployment rate in a county is associated with a greater relative excess supply of people seeking work in that county and a negative relationship between the unemployment rate and farm wages is therefore hypothesized.

The average nonagricultural wage rate in the county of employment is a proxy for the local opportunity wage for each worker. Higher opportunity wages are directly related to an individual's reservation wage and a positive relationship between the local nonagricultural wage and the observed farm wage is expected. Since cost of living differences are positively correlated with nominal wage rates, however, a positive coefficient for ALTW may represent a compensating nominal wage differential as well as a real opportunity wage effect.

The other variables added to the third specification of the wage model relate to productivity differences of similar workers employed by different firms (Pissarides). Such productivity differences may occur if differences exist in the quality or quantity of inputs combined with similar workers. The ideal test for these effects would be the inclusion of quality and quantity data for all non-hired labor inputs on each farm. These data were not available, but two farm characteristic variables related to hired worker productivity were included in the model.

Operator's education was included in the regression as a proxy for the quality of management skills on the employing farm. Huffman has reported a positive and significant relationship between farm operator education and agricultural productivity. Superior operator management skills are hypothesized to increase the productivity of a unit of hired labor on the farm of employment, *ceteris paribus*, and operator's education is therefore expected to be positively related to farm worker wages.

In the absence of detailed information on non-hired labor inputs, a gross measure of the average productivity of hired workers on each farm was included in Model III. The gross sales level of each farm was divided by the number of hours worked by hired labor on that farm to calculate the average value productivity of hired labor. This measures the average value of output per hour of hired farm labor for each farm.

Average value productivity is an admittedly crude measure of worker productivity differences across farms and average value added by hired labor would be superior, if available. Data related to inter-firm productivity differences of workers are rare, however, and the average value productivity proxy has been used in previous empirical work (Perlman; Brown and Browne). Greater quantities or superior quality inputs combined with a unit of hired labor, *ceteris paribus,* should increase the productivity of labor and the average value product per hour of hired labor. Thus, a positive relationship between AVP and the wage rate is hypothesized.

Although OPED and AVP were added to Model III to capture productivity differences between workers not related to individual human capital attributes, caution must be exercised in interpreting the results for these variables. Superior management skills represented by OPED may include an advantage in identifying productive characteristics of workers that are not measurable by the human capital variables included in the model. This is a reasonable possibility, but it represents only one aspect of superior management and managerial advantages in labor management, production, and marketing decisions would still raise the productivity of similar workers, *ceteris paribus* .

Similarly, a possible source of higher average value productivity of hired workers on a farm is greater human capital of hired workers which is not captured by the human capital variables in the model. This would likely explain only a small portion of average value productivity differences, however, relative to differences in the acreage and quality of land and the quality and quantity of all other nonhired labor inputs.

DATA

Data used in this analysis were from a survey of Georgia farm operators which was conducted in early 1983, concerning 1982 labor use. Three hundred and eighty-nine operators were interviewed and information on 540 hired workers who worked more than 150 days on the subject farm in 1982 was obtained. A stratified random sample using area and list frames was employed to more heavily sample farms that were expected to use hired labor. The area frame sample selection was based on land use criteria and included classifications indicating varying degrees of cultivation, residential and/or commercial use, open-range, and nonagricultural land. List frame classifications were based on type of commodity production and scale of operation (Paulding). The sample was drawn by the Statistical Reporting Service (SRS) of USDA in cooperation with the Georgia Crop Reporting Service. Expansion factors based on the sample design were provided by SRS for use in weighting observations for statewide estimates.

The survey was intended to obtain wide ranging information on hired farm labor in Georgia and was not specifically designed for the wage study. An advantage of the survey data set over other labor data sets is that it includes information on both the farm workers and the farm operation employing the workers. Admittedly, the method employed relies on farm operators to provide information about farm workers, such as age and education, which might be better obtained from the workers themselves. Race and sex of hired farm workers were not obtained, although these are often included in earnings studies as control variables. Potential bias associated with the absence of race and sex data, however, is mitigated somewhat by the inclusion of primary duty variables. Previous studies have found that race and sex effects

TABLE 1. MEAN VALUES AND STANDARD DEVIATIONS OF VARIABLES INCLUDED IN WAGE MODELS, GEORGIA, 1982[a]

Variable	Mean[b]	Standard deviation[b]
ln Wage	1.34	.39
Education	9.35	3.62
Experience	20.94	15.63
Tenure	6.32	7.29
Number of primary duties	3.88	1.71
Unemployment rate	8.44	1.99
Opportunity wage	5.58	1.05
Operator's education	11.94	2.85
Average value product	54.49	42.34
Duties		
Bookkeeping/office help	.01	.17
Packing/sorting fruits, vegetables	.44	.45
Supervising others	.07	.36
Minor machinery repair/ maintenance	.47	.50
Skilled labor	.19	.39
Operating machinery	.72	.48
Tending livestock/poultry	.76	.48
Major machinery repairs	.16	.31
Fieldwork	.58	.50
Unskilled labor	.48	.49

[a]Based on 540 observations.
[b]Weighted means and standard deviations using expansion factors.

on wage rates frequently become insignificant when occupation/job classifications are included in wage models, suggesting that race and sex affect job determination rather than wage determination within jobs (Joll et al., p.279). The only data used that were not from the survey were the nonagricultural wage rate (Sparks) and the unemployment rate (University of Georgia). Mean values and standard deviations for the variables included in the models are listed in Table 1.

ESTIMATION AND RESULTS

The proper estimation technique for the stratified sample design is generalized least squares, with weights attached to observations in each stratum depending on the proportion of each stratum sampled (Snedecor and Cochrane, p. 521). The weighting scheme is analagous to that used for grouped data when unequal error variances between groups are expected (Maddala, p. 268) and the square roots of the SRS expansion factors were used as weights. The R^2 statistic does not have its usual interpretation when weighted least squares methods are employed. Consequently, the goodness-of-fit statistic reported in Table 2 is the squared correlation coefficient between the predicted and actual values of the dependent variable (Judge et al., p. 255).

Goodness-of-fit statistics for the models are relatively low, especially for Model I, and indicate successively better fits for the augmented models. Application of the factor for computing R^2's adjusted for degrees of freedom (Kennedy, p. 56) to the Table 2 goodness-of-fit statistics yields adjusted values of

TABLE 2. WAGE REGRESSION RESULTS FOR MODELS I, II, AND III, GEORGIA, 1982

Variable	I	II	III
SQEF[a]	1.078	.773	.586
	(12.14)[b]	(7.55)	(3.08)
Education	.026	.020	.015
	(4.33)	(2.83)	(2.29)
Experience	.007	−.001	−.003
	(1.84)	(.341)	(.752)
Experience squared	$-.09\text{x}10^{-3}$	$.07\text{x}10^{-3}$	$.08\text{x}10^{-3}$
	(1.39)	(1.04)	(1.21)
Tenure	−.004	.004	−.002
	(.573)	(.531)	(.206)
Tenure squared	.0002	$-.06\text{x}10^{-3}$	.0002
	(.881)	(.225)	(.810)
Bookkeeping/office help	–	.649	.582
		(4.21)	(3.89)
Packing/sorting fruits, vegetables	–	.310	.332
		(5.98)	(6.43)
Supervising others	–	.281	.238
		(3.69)	(3.22)
Minor machinery repair/maintenance	–	.260	.224
		(4.94)	(4.27)
Skilled labor	–	.169	.179
		(2.50)	(2.67)
Operating machinery	–	.126	.155
		(2.13)	(2.65)
Tend livestock/poultry	–	−.024	.002
		(.439)	(.043)
Major machinery repair	–	−.105	−.072
		(1.46)	(1.02)
Fieldwork	–	−.164	−.112
		(2.85)	(1.98)
Number of duties	–	.177	.148
		(3.27)	(2.72)
Duties squared	–	.034	−.030
		(7.11)	(6.45)
Unemployment rate	–	–	−.023
			(2.14)
Opportunity wage	–	–	−.013
			(.624)
Operator's education	–	–	.039
			(5.76)
Average value product	–	–	.0007
			(1.92)
Goodness-of-Fit[c]	.05	.19	.25
No. observations	540.	540.	540.

[a]Intercept replaced by the square root of the expansion factor (SQEF for GLS.)
[b]Absolute value of t-statistics in parentheses.
[c]Goodness-of-fit statistic is the square of the correlation between the observed and predicted values of the dependent variable.

.04, .17, and .22 for Models I, II, and III, respectively.

R^2's for multiple industry/occupation annual earnings models, similar in specification to Model I, are often in the range of .2 to .3 (Siebert, p. 42). Siebert points out the need to judge HC models by the size, sign, and significance of the coefficients rather than by the R^2. Higher explanatory power for annual earnings models relative to hourly wage models is expected, in part, because of the positive correlation between education and weeks worked per year (Joll et al., p. 273). Moreover, the restriction of the sample to one general occupation, farm worker, reduces the variations in human capital and wages compared to studies which employ samples from the general population of wage earners. Sumner reported an R^2 of .157 for an augmented human capital model of the off-farm hourly wage of farm operators.

Model I can be viewed as a restricted formulation of Models II and III with zero restrictions on the excluded variables. Similarly, Model II is a restricted version of Model III. Comparing Models I and II, an F-test of the hypotheses that the coefficients of the additional variables included in Model II are equal to zero (Kmenta, p. 370) results in a calculated F of 8.7 compared to the critical F, with 11 and 523 degrees of freedom, of approximately 2.3. The hypothesis is therefore rejected. The corresponding test comparing Models II and III also rejects the hypothesis of zero coefficients for the additional Model III variables, with a calculated F of 10.3 and a critical value of approximately 3.3.

Results for the general human capital variables, EDUC, EXPER, and TENURE indicate that the education variable is the only one which is statistically significant across all three specifications. The linear term for the general on-the-job training proxy, EXPER, is significant at the 10 percent level in Model I and is the only general HC variable other than education that is significant in any specification. The 2.6 percent return to a year of schooling found in Model I is between the rate of return estimates of Emerson (1984) and Matta. Since the job tenure variable is a proxy for firm specific on-the-job training, its insignificance across all specifications indicates the minor importance of firm specific training for hired farm workers, which is consistent with the high turnover rates associated with these workers (Gunter et al.).

Seven of the nine primary duty variables included in Models II and III were significant at the .05 level. The ordering of impact of duties on wages is the same for Models II and III and differences in the size of the coefficients across models are relatively minor. Table 3 shows the impact of performing each duty on the hourly wage rate when all nonduty variables are at their means. Although the Table 3 results provide an estimate of the average dollar impact of each individual duty on the hourly wage, the logarithmic form of the dependent variable in the estimated models makes the dollar impact of each duty on the hourly wage dependent on the value of all independent variables in the model.

Ranking of duties in order of their positive impact on wages appears reasonable for most duties in terms of their associated skills. Absence of a significant wage impact for major machinery repair is surprising, however, since this duty should be associated with high skill levels. The other high and low wage duties are generally consistent with the national average wage rankings for five different types of workers reported in *Farm Labor* (USDA, 1980, p. 3), where supervisors, packinghouse workers, and machine operators were reported to receive higher average wages than livestock workers and field workers.

The significant coefficients for the worker specialization variables in Model III are consistent with a premium in the hourly wage if four or fewer primary duties are performed and a decrease in the hourly wage if five or more primary duties are performed. The largest premium, beyond the impact of the individual duties on wages, occurs for the

TABLE 3. ESTIMATED MODEL III IMPACTS OF PERFORMING EACH PRIMARY DUTY ON THE HOURLY WAGE, ASSUMING ALL NON-DUTY VARIABLES AT THEIR MEAN, GEORGIA, 1982

Primary duties	Change in hourly wage associated with primary duty ($)[a]
Bookkeeping/office help	2.21
Packing/sorting fruits, vegetables	1.10
Supervising others	.75
Minor machinery repairs/maintenance	.70
Skilled labor	.55
Operating machinery	.47
Tending livestock/poultry	.01[b]
Major machinery repairs	−.19[b]
Fieldwork	−.30
Average hourly wage, no duties included, other variables at means	$2.80

[a]Since the dependent variable in Model III is the log of the hourly wage rate, the effect of a combination of primary duties on the hourly wage will exceed the sum of the individual effects listed in this Table.
[b]Calculated from insignificant coefficients.

performance of two primary duties. Positive but smaller premiums exist if either three or four primary duties are performed.

The regression results for the primary duty variables are important in terms of the statistical significance of the coefficients and the contribution of the duty variables to the explanatory power of the model. Unobserved human capital attributes will almost certainly vary among workers who perform any individual duty. Controlling for duties performed, however, permits unobserved human capital differences which affect the matching of workers and duties to be reflected in the model. The duty variables also control, to an undetermined extent, for differences in working conditions, but this effect cannot be separated from the human capital effect implicit in the duty variables. Human capital differences and working conditions are both central to the HC wage determination paradigm, however, and the information contained in the primary duty variables is more powerful in explaining wage differences among Georgia regular hired farm workers than the formal education and on-the-job training proxies included in Model I.

The local unemployment rate coefficient in Model III was negative and significant, while the opportunity wage coefficient was negative but not statistically different from zero. This implies a local labor market effect on farm wages related to local employment opportunities, where an excess supply of labor in an area has a depressing effect on farm wage rates. The excess supply of labor associated with a high unemployment rate also depresses nonagricultural wage rates, however. The correlation between the county level unemployment rates and nonagricultural wage rates in the survey year was −.40. Separate local job opportunity effects and local opportunity wage effects are therefore difficult to discern because of the relationship between the two factors.

The coefficient of the operator's education and the average value productivity variables were positive and significant. Since these variables measure differences in farm characteristics, after controlling for measurable human capital differences between hired workers, the implication is that hired worker productivity is impacted by farm characteristics, *ceteris paribus,* and that these differences in productivity impact wage rates. The caveat concerning the relationship between OPED and AVP and hired worker human capital, which was previously argued to be relatively minor, must be considered in this interpretation, however.

SUMMARY AND CONCLUSIONS

The importance of regular hired farm workers in agriculture has increased greatly in recent years, but research on the market for these workers is limited. This empirical study of regular farm worker wages in Georgia represents an attempt to further the understanding of the pricing of regular hired farm labor and to provide basic information on factors affecting wage rates.

Some of the results of this analysis, such as the estimated return to performing specific duties and the impact of performing multiple duties, are specific to the time and location of this study. These results are most valuable for assessing the market for different types of workers in Georgia and for providing baseline estimates of wages for workers with multiple duties. More general results related to the empirical analysis of wages for farm workers are also available, however.

One such result is the finding that general human capital variables such as educational attainment and the proxies for general on-the-job training (experience) and specific on-the-job training (tenure) do a relatively poor job of explaining variations in wages among farm workers. The implication of this, within the human capital framework, is that these measures are not sensitive indicators of productivity differences among individual farm workers.

The explanatory power of the wage model increased by a factor of four when primary duty variables were added to the general human capital model. Since the performance of a primary duty implies that the worker possesses at least the minimum human capital attributes necessary for that duty, these variables can be viewed as revealed human capital variables. That is, human capital differences not captured by the general human capital variables impact the matching of workers and duties, and the effect of worker productivity differences on wages is revealed by the impact of duties performed on wages. While this interpretation describes the duty-productivity-wage relationship, it is important to note that the coefficient of each duty variable is affected by the relative supply of workers capable of performing each duty, as well as by working conditions associated with each duty.

The results of the third specification of the wage model indicate that farm worker wages are impacted by local labor market conditions and farm characteristics as well as by human capital differences among workers. This does not contradict the major human capital prediction that workers will be paid according to their marginal productivity. This is instead consistent with the human capital paradigm when the assumptions of costless labor mobility and costless and perfect information are relaxed. The equivalence of marginal value productivity and wage may exist for each individual employment situation. A single statewide wage for farm workers with similar human capital does not exist, however, because of these imperfections in the wage equilibrating mechanism.

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