The Distinction Between Economic Development and Economic Growth: Implications for North Carolina Development Policy

Two widely recognized economic theories attempt to explain the process of development in an interregional context. Trade theory (and traditional neoclassical growth theory in general) posits that economic growth is both the necessary and sufficient condition for development of a less developed region. The theory of unequal exchange, on the other hand, contends that while economic growth is necessary to the development of a region, it is not a sufficient condition to bring about true development, defined as increases in the overall welfare of the region's population.

This article attempts to break down the determinants of wages into an economic growth component and an economic development component as suggested by these theories. It then shows the importance of the economic development component in explaining cross-state wage differentials.[1] The state of North Carolina has attempted to further its development through growth-related policies. The analysis found herein suggests the need for a reassessment of North Carolina's existing development policies.

Development Models: Trade Theory and Unequal Exchange

In the trade theory model, one region is assumed to be a well-developed, capital-intensive area, and the other a less-developed, labor-intensive region. The capital-intensive region can produce commodities which require a large amount of capital inputs at a relative cost advantage; the labor-intensive region can produce commodities which require a large amount of labor at a relatively low cost.

This comparative advantage will inevitably result in trade between the two regions. In the long run, production specialization will occur as the regions begin to increase trade relations and concentrate their commodity production in the area of their advantage in factor endowments. The equalization of prices for consumer goods and production inputs will also result as a direct effect of this interregional trade. This phenomenon will allow residents of the less-developed, labor-intensive region to increase their satisfaction and welfare by raising the real wage levels in the region and, in so doing, increase consumption. This increased demand for consumer goods will benefit the economy of the less-developed region, and convergence between regions will inevitably result in the long run (Kreinin 1971; Lefeber 1966; Olson 1971).

The other interregional development model, based on the theory of unequal exchange, posits that the natural play of market forces tends to increase rather than decrease inherent regional inequalities. As interregional trade occurs, all economic activities which in the less-developed region bring a larger than average return will cluster in certain localities, leaving other areas of the region in a relatively disadvantaged position (Myrdal 1952). The lower two-thirds of the population in the less developed region get progressively poorer at the expense of the upper third, who derive their income from the professional, managerial, and corporate sectors of the economy. The implicit development strategy associated with this theory of continuing interregional divergence is that government of the less developed region must assume an active role in impeding the steadily increasing forms of inequality by devising an economic system that will achieve economic growth in the region while at the same time increasing equality in the distribution of the factors of production (Friedmann and Sullivan 1975)

Using these conflicting theories, a distinction can be made between the concepts of economic growth and economic development. This distinction is critical in understanding why balanced, broadly-based development has not occured in all areas of the United States. It also helps us to understand the implications of North Carolina's development policy.

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North Carolina Development Policy

The state of North Carolina can be viewed as a less-developed (that is, labor-intensive and low-wage) region in the interregional context which we have established. As part of the southeastern region of the United States, North Carolina is relatively less developed than the northern U.S. The state's industry is dominated by textile, furniture, and tobacco manufacturing, all of which are labor-intensive systems of production. North Carolina ranks forty-fifth of the forty-eight contiguous states in average weekly earnings (Crow 1975).

North Carolina's development policy is composed of two major elements. First, efforts are being directed towards encouraging a better industrial mix in the state through recruitment of high-wage industries. Second, North Carolina workers are being encouraged to become more productive through the provision of skill training and efforts to raise the general education level in the state.

The North Carolina Department of Natural Resources and Community Development operates four programs intended to upgrade the industrial mix in North Carolina. Food Industries Development Units promote commercial fishing, agriculture, and other food industries by providing information regarding potential locations, recruiting industries and investors, and by providing technical assistance. The Tourist Promotion Unit offers tourist information and promotes advertising campaigns which highlight the state's cultural, historic, and recreational attractions. The Industrial Development Unit conducts promotional activities to encourage firms to locate or expand their operations in North Carolina. This organization provides site location information and other assistance such as local labor market data, building costs and regulations, and available fiscal and financial inducements to potential clients. The International

Textile mills predominate in North Carolina manufacturing.

Photo courtesy of *Southern Exposure*

the agreement and helps to insure the quality of the apprenticeship programs (Reid 1977).

Third, the North Carolina Community College system places a high priority in upgrading the labor forces and improving employment opportunities in the state. The system's job-oriented programs include vocational and technical degree programs, occupational extension, and occupational training for the disadvantaged and handicapped. The prime sponsors subcontract to provide classroom training, job orientation and motivation classes, and special education (Reid 1977).

The Concepts of Economic Growth and Economic Development

Economic growth refers to the quantitative changes in the spatial and economic structure of a state which result in increased factor utilization and commodity production. It is concerned with increased production in a region regardless of the distributive implication of this growth. The processes of industrialization and urbanization typically characterize successful economic growth. Economic growth is viewed by proponents of neoclassical economics as the necessary and sufficient condition for the development of a less-developed region. As a region uses its comparative advantage to produce labor-intensive commodities and engages in trade with a more developed region, residents' satisfaction and welfare will increase and convergence in the level of development of the two regions will result in the long run.

Economic development refers to the more qualitative changes in the economic structure of a region, such as the cultural and psychological outlooks of the region's population, the organization of technology, and the changes in power relations within a region and between regions. Economic development is concerned with the ability of a broad

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Development Unit provides the same information to encourage foreign investment, and conducts promotions to encourage the export of commodities produced in North Carolina (Reid 1977).

Second, the Apprenticeship Division of the Department of Labor conducts apprenticeship certification programs in North Carolina. These programs are voluntary training agreements reached between an employer and a worker where on-the-job training is provided at a graduated pay scale to the worker, who agrees to work and learn a particular skill or trade. State certification of these arrangements protects the rights of both parties to

majority of a state's population to participate meaningfully in a state's economy. Proponents of the diverging interregional development model believe that while economic growth is a necessary condition for the successful development of a less-developed region, it is not a sufficient condition. In order for development to occur, according to this theory, the benefits of increased commodity production must be widely distributed among the population of an underdeveloped region. Proponents of this theory do not believe that increased interregional trade will automatically improve the welfare of the less developed region's economy. Rather, they contend that economic growth policies pursued alone will result in greater inequality.

> "Economic development is concerned with the ability of a broad majority of a state's population to participate meaningfully in a state's economy."

It is worthwhile to examine some of the assumptions behind North Carolina's current development efforts. With regard to the efforts to change the industrial mix in the state, it is assumed that new jobs in higher-wage industries will provide an increase in the demand for skilled workers. Further, it is assumed that this increased demand will be sufficient to create pressure for higher wages in those jobs which presently exist in a local labor market. These higher wages for workers will in turn create more demand for consumer goods in the labor market, causing positive second round multiplier effects.

With regard to the state's efforts to raise the productivity of North Carolina workers, the following assumptions are applicable. First, it is assumed that there are jobs available requiring specific skills, and that the lack of these skills is presently the primary barrier between the available work force and these jobs. Second, the education and training provided by the programs instituted by the state government are presumed to be capable of making workers more productive. Finally, there is an implicit assumption that productivity increases will lead directly to increased wages.

Generally, the development policies initiated by the state of North Carolina have been designed to follow the neoclassical economists' theory of interregional development. The state government has chosen to use the existence of low wages in North Carolina to encourage the relocation of industry from other areas of the United States and the expansion of North Carolina industry. By capitalizing on this comparative advantage of low labor costs and by improving the productivity of its workers, the state hopes to induce a better industrial mix and therefore indirectly raise the earnings and thus the welfare of the residents of North Carolina. In this sense, the state of North Carolina is relying on economic growth priorities to raise it from the condition of a less-developed region to that of a more-developed region.

Implications of North Carolina's Policy

There are indications, however, that these policies are misguided. Studies by Malizia (1975) and Malizia et al. (1975) indicate the inadequacy of these policies to raise the level of earnings for North Carolina workers. In the American economy, the great majority of people make their living by working for wages and salaries. Since almost all transactions are based on money exchange, these earnings provide people with the sole means of satisfying their needs. We can therefore observe the importance of earnings in defining the level of living possible for any group of North Carolinians. As real earnings rise, workers are provided with the means to satisfy a greater portion of their desires and needs through exchange in the market.

In examining the earnings potential provided by the state's economy, Malizia et al. examine two factors: the types of industry present in the North Carolina economy that affect earnings; and the specific wage levels paid by those industries. In order to take both of these factors into consideration, Malizia et al. used a modified shift-share analysis.

Shift-share analysis separates differences in average weekly earnings into that portion attributable to the relative predominance of various industries in North Carolina (industrial mix effect) and that portion attributable to differences in wages paid by those industries in the state (local effect). It was found that approximately 63% of the gap between weekly earnings in North Carolina and those in the United States as a whole was the result
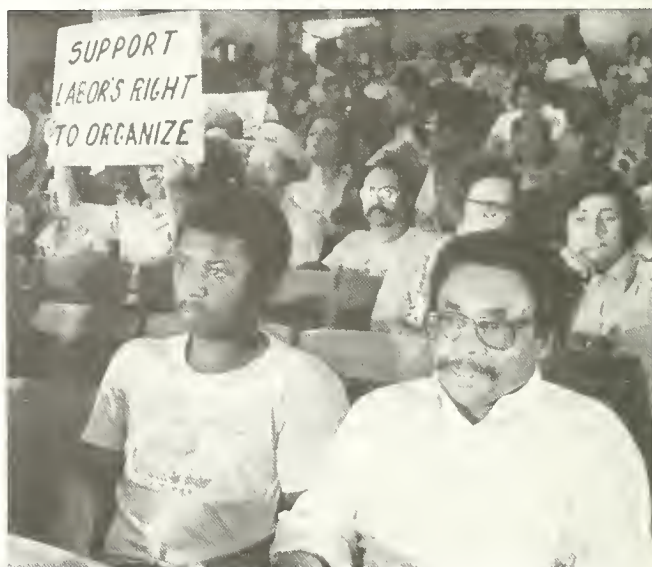
Workers organize to attain higher wages and improved benefits.
Photo courtesy of Southern Exposure

of the local effect in the years 1963, 1969, and 1971 (Malizia 1975). North Carolina workers earned less than U.S. workers not because of the type of industries located in North Carolina, but largely because those industries paid lower wages to North Carolina workers than they paid workers in other states. Furthermore, productivity differences between North Carolinians and United States workers cannot account for this earnings gap. North Carolina has a high concentration of low-productivity industries, but the studies showed that North Carolina workers produce on the average $.22 more per dollar received than comparable U.S. workers (Malizia et al. 1975).

As we have noted, there are basic disagreements concerning the process of economic development. Some economists insist that growth inevitably leads to increases in welfare; others warn that growth may cause greater inequality. In this article, we assume that the aim of economic development is to improve the standard of living for a broad cross-section of a region's population; therefore, a strategy which brings increased economic activity but fails to reduce inequality is not acceptable.

"This model implies that high wages are associated with relative income and education equality, and with a more effectively organized trade union movement..."

Indicators of Growth and Development

We have posited that the distinction between economic growth and economic development is important in explaining the existence and persistence of regional inequality in the United States. This research empirically attempts to relate indicators of growth and development to wage levels in a cross-state analysis.

Dudley Seers has written that poverty, inequality, and unemployment are good indicators of the level of development in a region at a given point of time (Seers 1973). These indicators are directly related to the distributive principles associated with the concept of economic development. Arghiri Emmanuel states that while industrialization, technological advances and capital accumulation provide necessary conditions for the successful development of a region, rising wages provide the sufficient condition. He believes that development in a capitalist market system cannot occur until real wages begin to rise steadily, since the process of development relies on the growth of consumption rather than saving. Emmanuel claims that increased trade union pressure will drive up the acceptable level of real wages and the minimum acceptable standard of living and, in so doing, cause an increase in a region's level of development (Emmanuel 1972).

North Carolina's current policy is aimed at economic growth and improving the industrial mix of the economy, and shift-share analysis has shown that the majority of the variation in wage levels in the state is related to factors other than the Industrial Mix Effect. We have therefore examined the explanatory power of Seers' and Emmanuel's theories with regard to those variations in wages which are not explained by industrial mix. In order to accomplish this task, it was necessary to develop indicators of economic development as defined by Seers and Emmanuel. These concepts are complex; single referents are inadequate to measure them fully. The empirical analysis therefore took on a two-stage design.

The first step was to gather a large set of variables which seemed to measure the concepts suggested by Seers and Emmanuel. Indicators of income, of educational inequality, and of poverty were gathered in order to represent Seers' concepts. These included:

Inequality
1. Black Median Income as a Proportion of White Median Income
2. Black Median Education as a Proportion of White Median Education
3. Gini Coefficient of Income Distribution[2]
4. Median Education

Poverty
1. Percent Below Poverty Income

Unemployment
1. Percent Unemployed

Indicators of union organizations and activity were gathered in order to represent Emmanuel's major concept. These included:

Union Activity and Worker Organization
1. Percent of Manufacturing Workers who are Members of Unions (Stroup 1975)
2. Number of Workers involved in Work Stoppages per 1000 Workers (National Labor Relations Board 1973)
3. Presence of Right-to-Work Legislation (Stroup 1975)

In addition, a number of variables more closely related to traditional concepts of economic growth were collected. These included both direct and indirect measures, such as:

Productivity
1. Value Added per Worker Hour
2. Value Added per Wage Dollar

Urbanization
1. Percent of Population in Urban Areas

Finally, data on government involvement in social welfare expenditures was collected, including:

Government Expenditures
1. Per Capita Expenditures on Education
2. Per Capita Expenditures on Public Welfare

Unless otherwise noted, the data was collected from the City and County Data Book for 1972 (Bureau of Census 1973). This data was then analyzed using factor analysis.

Figure 1
Factor Loadings

	FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Gini of income	-.721	.339	.007	.166	.030
Black/white income	.194	.548	.503	-.111	-.296
Black/white education	.809	.092	.242	.062	.070
% below poverty	-.655	.116	.469	-.024	-.044
Median education	.707	-.036	.537	.125	.095
% unemployed	.071	.116	-.043	.077	.778
% unionized	.057	.925	.306	.071	.198
Work stoppages/1000 workers	-.653	.738	-.178	.341	.016
Right-to-work law	-.311	-.531	-.237	.162	-.113
% urban	-.030	.177	.674	.212	.041
Education exp./capita	.407	-.006	.662	.263	.352
Welfare exp./capita	.074	.081	.668	-.030	-.128
Value added/wage dollar	-.090	-.006	.032	.921	.014
Value added/hour worked	.161	.312	.289	.871	.182

Factor Analysis

Factor analysis is useful in combining the information provided by a number of variables which measure closely related concepts. The technique defines a new variable which is a linear combination of a number of other variables based on the pattern of the correlations. It is assumed that the new variable defined by factor analysis is responsible for the interrelations of the original variables. Factor analysis also separates into distinct factors those groups of variables which seem to be influenced by different underlying forces.

In the context of this article, factor analysis was used to test whether social welfare-related variables group identifiably along the dimensions suggested by Seers and Emmanuel while remaining distinct from a set of economic growth referents. The indices generated by the factor analysis are then used to predict differences in wage levels between states.

Five independent factors were generated by the factor analysis. Figure 1 gives the results of this phase of the research. The loadings of individual variables on the factors can be interpreted as the correlation of that variable with the factor (Nie et al. 1975).

If one assumes that loading of less than an absolute value of .500 denotes marginal contribution of the variable to the factor, the columns of Figure 1 can be simplified and a more definite pattern emerges.

Two factors seem to account for the dimensions hypothesized by Seers. These are Factors I and V. Factor I is most closely related to the degree of income and educational inequality and to the percent of the population below the poverty line:

Ratio of Black/White Education .... .809
Gini Coefficient of Income .... -.721
Median Education .... .707
Percent below Poverty .... -.655

Factor V loads highly on only one variable:

Percent Unemployed .... .778

These two factors measure Seers' economic development concepts in that Factor I is a poverty and inequality scale while Factor V is clearly an unemployment indicator.

All of our measures of Union Activity have loaded together in Factor II along with the Right-to-Work Legislation variable. Our second index on income disparity also loaded on this factor:

Percent Unionized .... .925
Work Stoppages/1000 Workers .... .738
Right-to-Work Legislation .... -.531
Ratio of Black/White Income .... .548

Factor II represents the level of trade union pressure as discussed by Emmanuel.

Factor III seems to be most clearly related to Urbanization. Urbanization is clearly associated with the traditional measures of the economic growth process discussed earlier. However, this factor also includes measures of Government Expenditures on Education and Welfare and a measure of Income Disparity. These variables relate to differences in the nature of socio-economic institutions, which are more closely associated with development theory than growth theory. The varibles associated with Factor III are:

Percent Urbanized .... .674
Education Expenditures/capita .... .662
Welfare Expenditures/capita .... .669
Ratio of Black/White Income .... .503

Finally, the two measures of productivity load together on a single factor. Factor IV is therefore clearly related to traditional theories of economic growth:

Value Added per Wage Dollar 921
Value Added per Hour Worked 871

Examining our results, we find three factors related to theories of economic development and two factors more closely associated with theories of economic growth. The factors seem internally consistent. In Factor I, increasing equality is directly related to the decreasing prevalence of poverty, as would be expected. In Factor II, increasing union activity is inversely related to the presence of Right-to-Work legislation. Right-to-work laws commonly discourage and impede organization of workers into unions. Factor III shows direct relationships between urbanization and government expenditures in the areas of education and social welfare. In Factor IV, the two measures of productivity are directly related to one another. Since only one measure of unemployment is included in Factor V, no internal inconsistencies exist.

The factors represent variables which are defined by factor analysis during the analysis of the data. They are assumed to be related to the underlying forces which influence the values of the original variables included in the analysis. The technique not only defines the structure and strength of these interrelationships, but also defines a value of the new variable for each state. Next we examined the usefulness of our factors in explaining wage differentials in the United States. For this purpose, we used multiple regression analysis.

Multiple Regression Analysis

Multiple regression is used to test whether we can predict the value of our dependent variable, interstate wage differentials, from knowledge of the values of our independent variables. This technique yields information regarding the strength, form, and reliability of the relationship between wage differentials and the development indicators we derived through factor analysis. The multiple coefficient of determination (R^2) shows the percentage of variation in wage differentials between states which can be explained by the development indicators. The Beta coefficient (b) is an estimate of the amount and direction of the change in wage differentials that would be expected for a one unit change in the relevant development indicator.[3] For instance, a Beta coefficient of 1.25 would suggest that wage differentials increase by $1.25 for every 1 unit change in the relevant predictor, while a Beta coefficient of -1.10 would indicate a decline of $1.10 for each increase of one unit in the predictor.
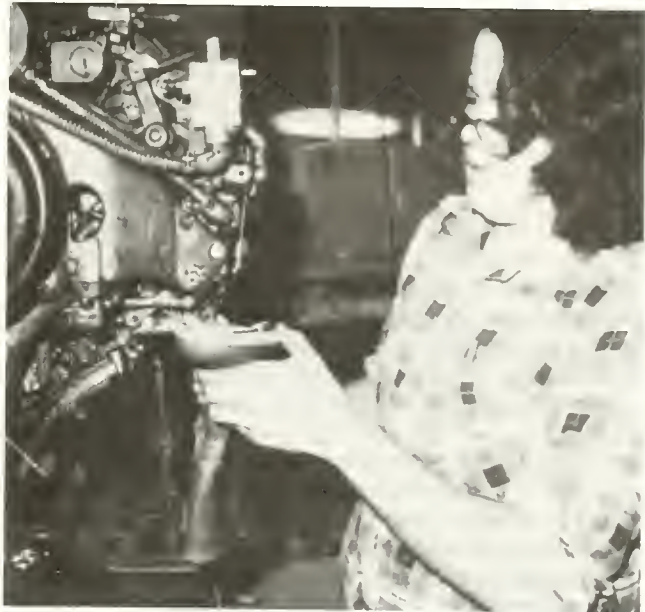
North Carolina's industry is dominated by labor-intensive plants.

Photo by Francis Hocutt, N.C. Dept. of Labor

A number of other coefficients can be examined in order to gauge the reliability of the relationship discovered. The t-statistic tests whether a Beta value as large as that found in the regression analysis could have occurred by chance. The t-values are compared to a table of standard values and the results are expressed as a level of significance. The level of significance is interpreted as the probability that the Beta value was the result of chance variation. The F-ratio for the equation is analogous to the t-statistic for each Beta coefficient. It is a measure of the probability that an R^2 as high as that obtained in the regression analysis could have occurred by chance. For the purposes of this particular analysis, a significance level of .01 will be required to reject the null hypothesis. In other words, unless the probability of obtaining these results by chance is greater than 1 in 100, we assume that the results of the regression are valid.

According to the studies by Malizia et al., North Carolina's wage gap was largely attributable to the local effect. We decided to explore the predictive power of our development indicators in explaining this portion of the wage gap. The dependent variable of the model is the local effect on interstate earnings differentials. The independent or predictor variables are the factors generated in the previous step.

Economic development, as defined here, is clearly linked to distribution, while economic growth is

Figure 2
Preliminary Model Generated Through Multiple Regression Analysis

$\sum W_i^S / W_i^{US}$ = 5.09	-2.71 FI	-9.11 FII	-6.60 FIII	-2.05 FIV	-2.80 FV
standard error of b	(1.039)	(.974)	(1.056)	(.989)	(1.14)
t-statistic	(-2.603)	(-9.35)	(-6.25)	(-2.07)	(-2.44)

Adjusted R^2 = .77 Std. Err. of Est. = 6.69 F = 31.27 N = 48
b_1 , b_2 , b_3 , b_5 significant at better than .01 level of significance.
b_4 significant at better than .05 level of significance.

Figure 3
Reestimated Model

$$\sum W_i^S / W_i^{US} = 5.09 \quad -2.78\ \mathrm{FI} \quad -9.30\ \mathrm{FII} \quad -6.71\ \mathrm{FIII}$$

standard error of b $\quad\quad\quad\quad$ (1.14) $\quad\quad$ (1.06) $\quad\quad$ (1.55)

t-statistic $\quad\quad\quad\quad\quad$ (-2.44) $\quad\quad$ (-8.74) $\quad\quad$ (-5.80)

Adjusted R^2 = .72 Std. Err. of Est. = 7.32 $\quad$ F = 40.48 $\quad$ N = 48

b_1, b_2, b_3 significant at better than .01 level of significance.

related only to increased production. Therefore, we hypothesized that the development indicators would be better predictors of wage differentials than the growth indicators established during the factor analysis step. In interpreting the results of the multiple regression analysis, one must remember that the wage differential is expressed as a gap. Therefore, positive values of the dependent variables denote lower wage levels and negative values denote higher wage levels.

In performing the previous step of this analysis, an orthogonal rotation algorithm was employed (Nie *et al.* 1975). This means that the factors generated were by definition uncorrelated. Regression analysis assumes that the predictor variables are not highly correlated with one another, and by using the orthogonal rotation technique we assured compliance with this assumption. All of the factors were negatively correlated to wage differentials. This indicates that increasing values of the factors are associated with higher state wage levels. This conformed to our theoretical expectations in all cases except where higher unemployment was found to be associated with higher wages.

The next step was to fit an equation in the form:

$$\sum W_i^S / W_i^{US} =$$

$$b_0 + b_1\,\mathrm{FI} + b_2\,\mathrm{FII} + b_3\,\mathrm{FIII} + b_4\,\mathrm{FIV} + b_5\,\mathrm{FV}$$

where:

W_i^S / W_i^{US} = Wage Differential (Local Effect)
FI $\quad\quad\quad$ = Inequality and Poverty
FII $\quad\quad\quad$ = Unionization
FIII $\quad\quad\quad$ = Urbanization and Government Expenditures
FIV $\quad\quad\quad$ = Productivity
FV $\quad\quad\quad$ = Unemployment
$b_1, \ldots, b_5$ = Parameters to be estimated

We would expect the relationships to take on the following signs:

H1 : $b_1 < 0$
H2 : $b_2 < 0$
H3 : $b_3 < 0$
H4 : $b_4 < 0$
H5 : $b_5 < 0$

The null hypothesis is that:

Economic growth and economic development indicators will have no significant predictive power in explaining wage differentials, or:

H0 : $b_1, \ldots, b_5 = 0$

The model which was generated appears in Figure 2.

Seventy-seven percent of the variance in Wage Differentials was explained by the model. The direction of the relationships are as hypothesized in all but one case. Unemployment is still directly related to higher wages, in opposition to both our *a priori* expectations and Seers' theory. Since the relationship between productivity and wage differentials failed to attain a .01 level of significance, we cannot assume that the true population Beta

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coefficient is significantly different from zero. The unemployment and productivity factors were then dropped from the equation and the model was reestimated (see Figure 3).

Conclusions

This model implies that high wages are associated with relative income and education equality, and with a more effectively organized trade union movement, as would be expected from Seers and Emmanuel. It also shows that states characterized by higher levels of urbanization and government expenditures for social purposes are more likely to be high wage states. As we had hypothesized, both economic development and growth are related to higher wages. However, the economic development indicators seemed to have a closer relationship to wages than did the growth indicators.

As originally hypothesized, the concepts of economic growth and economic development are both important in attaining broadly-based, balanced regional development. However, a distinction can and must be made in order to understand why regional inequality exists in the United States. States in which development policies rely solely on economic growth objectives without giving appropriate consideration to the distribution impacts of this growth are likely to remain underdeveloped.

We believe that North Carolina is mistaken in its decision to concentrate the majority of its development efforts on changing the industrial mix present in the state. Further, these economic growth efforts have impeded the achievement of broad-based economic development in North Carolina. Since

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these policies rely on the existence of low wages in the state and on discouraging worker organization through right-to-work legislation, they have blocked the possibilities of significant gains in earnings for the North Carolina worker. The studies by Malizia *et al.* have seriously questioned whether or not North Carolina's growth-oriented policy will ever benefit North Carolina and the United States as a whole, and North Carolina's relatively stable ranking as the forty-fifth of forty-eight states in average earnings, support Malizia *et al.*'s conclusions.

Our analysis has shown that worker organizations and concern for economic and educational equality are present in high wage states. It also indicates that these economic development indicators have a stronger role in explaining interstate earnings differentials than do indicators of economic growth. On the basis of these findings, we feel that the state of North Carolina must shift its emphasis to people-oriented development policies and should remove institutional barriers to worker organization that presently exist.

Policies which incorporate economic development concerns do not necessarily preclude the continued growth of North Carolina's economy. True development embodies elements of both ecomonic growth and economic develomment. The state must seek ways to change its present development policies so that they will no longer operate at the expense of the economic development concepts discussed herein.

The abandonment of wage suppression and the repeal of the right-to-work legislation may lead to lower rates of growth in the state's economy, for as wages rise, the state loses part of its relative advantage in recruiting new industries. The state must recognize, however, that its present development policies are operating at the expense of the North Carolina worker. Improvements in the industrial mix of the state have had no appreciable positive effects on closing the earnings gap (Malizia 1975).

The decision as to which development policy to pursue and which elements to emphasize is a difficult one at any level of government. Evidence has been presented to suggest that the current policy of the North Carolina state government is not improving the living conditions of the state's population. For this reason we urge the state to reconsider its policies and to take strong steps to insure that the broad majority of the state's workers will share in the benefits forthcoming from the state's economy.

Notes

1. The authors would like to acknowledge the support, encouragement, and help of a number of people without whom this paper would not have been written. Our thanks go first to Emil Malizia, whose research and teaching suggested this project, and to Ann Witte, who provided so much of herself in terms of methodological consultation. In addition, we would like to express our appreciation to Dianne Reid for giving us the benefit of examining her dissertation proposal.

2. The Gini coefficient is a measure of the degree to which a distribution differs from equal distribution. In this case the coefficient refers to the distribution of income. It varies between limits of zero and one. A coefficient of one would denote that all income in a region was earned by one person. A coefficient of zero would mean that all persons in the region earned the same amount. In practical research neither of these extremes will occur. For a more complete exposition, see Isard, Walter 1960. *Methods of Regional Analysis.* Cambridge: MIT Press.

3. The coefficient discussed here is the *un*-standardized Beta (b) coefficient, also known as the regression coefficient. This interpretation holds true as long as the independent variables are not highly intercorrelated and we assume that all other variables are held constant. The use of the coefficient "b" is employed here, as is done in SPSS. Some may recognize this as "β" as listed in other sources.

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