ANALYSIS OF NORTH CAROLINA ECONOMIC FACTORS
THAT ACCURATELY EXPLAIN STUDENT PERFORMANCE
IN NORTH CAROLINA PUBLIC SCHOOLS

A Dissertation

By

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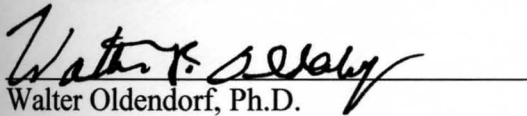

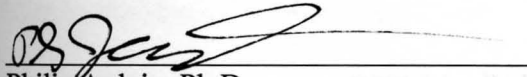By

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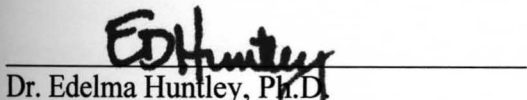Honorary Chairperson, Dissertation Committee

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ABSTRACT

ANALYSIS OF NORTH CAROLINA ECONOMIC FACTORS THAT ACCURATELY EXPLAIN STUDENT PERFORMANCE IN NORTH CAROLINA PUBLIC SCHOOLS

(May 2008)

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This study analyzed the academic performance of North Carolina students as measured by SAT scores, Eighth Grade Math Scores, Ninth - Twelfth Grade Retention Rate and a synthesized dependent variable combining these three measures as reported in 2006 by the North Carolina Department of Public Instruction. This performance was compared to combinations of economic independent variables for their ability to explain student performance in North Carolina.

Drawing from an initial 2006 model by Lin and Quayes in Pennsylvania, the Lin and Quayes model was augmented by a number of additional independent variables including Spending, Teacher Education Level, Adjusted Total County Tax Base, Adjusted Per Pupil County Tax Base, Local Teacher Pay Supplement Per Teacher, Local Sales Tax Revenue Per Pupil, Average County K-8 Class Size, Race, Per Capita Income, Percentage Of County Households Headed By A Female, Unemployment Rate, Location of UNC-System universities, Average Farm Size, Tobacco Growth, Metropolitan Centers, Gini Score, Landed Elite Percentages, Specific Geography, County Education

Level, Population Per Household, Net In Migration, and Total Population Growth Between 1990 and 2000.

This study provides a clear empirical formula for establishing a synthesized dependent variable for measuring education success and a full set of data for all 100 counties in North Carolina. The accompanying literature review goes into detail examining the history of economics, politics, and education in North Carolina and references numerous studies from other states that shed light on the high correlations.

The Lin and Quayes model used SAT scores as its dependent variable and I replicated this model and used a synthesized dependent variable to create a richer dependent measure of education success in North Carolina. The results measured against both SAT scores and the synthesized dependent variable yielded extremely high adjusted R-Squared correlations that raise serious questions about the relation between past economic systems and current education performance in certain North Carolina counties.

If a series of combined economic variables can explain more than 75% of the education performance level of students in North Carolina, then it follows that raising education scores means addressing economic situations at the county level. North Carolina has a past of deep racial and economic inequality, particularly in Eastern North Carolina, and the study results indicate that has persisted for decades and must be addressed to prevent replication over the coming decades.