

Preface

After working briefly in a management training program for a textile company, I decided to apply to the Ph.D. program in economics at Syracuse University. I was fortunate to obtain a research assistantship working for Jerry Miner on a project analyzing funding for public schools in New York. In addition to being kind and fatherly, Jerry provided me with an incredible opportunity to work on a real research project. I gained valuable research skills including a working knowledge of SAS programming. I also gained valuable experience maintaining and updating the data for the funded project for rural school districts. A lot of my modest success in academics can be traced to Jerry's supervision and guidance.

In the early 1990s Bill Duncombe approached Jerry about using the education data set to analyze consolidation of New York school districts. Bill did not have to include me on the research project but did so. In addition to cleaning and providing the data, Bill allowed me to estimate educational costs using the stochastic frontier. At the time, I was learning the topic of efficiency measurement using data envelopment analysis. The project with Bill and Jerry led to my first publication. More importantly, Bill taught me the process of research. In addition, Bill was one of the most valuable resources for my dissertation—I thanked him because he did more than one should reasonably expect. It took me many years to realize the profound influence Bill had on my career. Unfortunately, I never properly thanked him for his contributions. Bill passed away on May 11, 2013 after a brief battle with cancer. Thank you, Bill.

My interest in data envelopment analysis arose from a search on suitable research topics given the education data set that I maintained for my research assistantship. At the time I was more interested in finding a dissertation topic that would allow me to exploit my data set. Among the early papers that I found were Data Envelopment Analysis (DEA) papers analyzing education, and were Charnes, Cooper, and Rhodes (1981), Bessent, Bessent, Kennington, and Reagan (1982) and Färe, Grosskopf, and Weber (1989). The New York school data was richer than the ones used in these papers and my research topic was chosen. I obtained all of Rajiv Banker's working papers from Carnegie Mellon and all papers on DEA from both the microeconomics and the operations researchers. At the time, Bill and Jerry

obtained funding to analyze technical and scale efficiency of school districts for a coalition of rural school districts. We used the Banker and Morey (1986) DEA models to allow for exogenous socioeconomic factors. I began my journey into the supporting literature on bureaucracies, including the work of Niskanen (1971, 1975) and Chubb and Moe (1990), and on educational production with Hanushek (1979, 1986) and Cohn and Geske (1990). Eventually, all of this work was synthesized in my dissertation on educational efficiency. In the process, I developed a competing model to control for exogenous factors of production (Ruggiero, 1996a). This was the genesis of over two decades of research on performance evaluation which included applications to analyze educational production of New York, Ohio, Illinois, Dutch, and Australian schools. These applications focused not only on the measurement of technical efficiency (Ruggiero, 1996b) but also the causes of efficiency (Duncombe, Miner, & Ruggiero, 1997), the measurement of education costs (Duncombe, Ruggiero, & Yinger, 1996; Ruggiero, 1999), adequacy (Ruggiero, 2007), and productivity (Johnson & Ruggiero, 2011; Brennan, Haelermans, & Ruggiero, 2014).

After I finished my dissertation, my goals were to finish up the research I had started on efficiency measurement and move to other applied econometric work. Nearly 20 years after publishing my first article on efficiency, I continue to work in this area.

I would like to acknowledge my coauthors who have written on the topic of education (in order of publication date): Bill Duncombe, Jerry Miner, Johnny Yinger, Stuart Bretschneider, Don Vitaliano, Lloyd Blanchard, Andy Johnson, Sarah Estelle, Jaye Flavin, Ryan Murphy, Carla Haelermans, and Shae Brennan. In addition to Jaye, Ryan, and Shae, Scott Knowles and Craig Letavec also coauthored papers with me as undergraduate students. My former dean Matt Shank encouraged me to work on scholarship with undergraduate students as part of my additional goals as an endowed professor. The results include two research articles (Blackburn, Brennan & Ruggiero, 2013; Brennan, Haelermans, & Ruggiero, 2014) and this book, with more projects in progress. The experience of working with Shae has been one of the best I have had as a professor. I would like to thank Trevor Collier and Paul Bobrowski for allowing me to continue with these goals; I am currently working on research projects with Nikki Mazza, Kara Colety, Kristen Broadbent, Lesley Chilton, and Kelli Marquardt. Also, I have benefited from useful discussions with Mariana Almeida, David Ausdenmoore, Leslie Douglas, Paulo Henrique, Matheus Lambertucci, and Marco Mendes. And I would be remiss not to acknowledge the support of Joyce Zanini, one of the best workers at the University of Dayton.

Dayton, OH, USA

John Ruggiero

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Blackburn, V.; Brennan, S.; Ruggiero, J.

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