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BOOK REVIEW

Jerzy Witold Wiśniewski. **Microeconometrics in Business Management**, John Wiley @ Sons, Ltd, 2016, ISBN9781119096801. 216 pp.

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This book introduces the application of micro-econometric methods for modeling various aspects of economic activity for small- to large-sized enterprises, using methods that are based on both time-series and cross-section approaches. The information obtained from using these estimated models can then be used to inform business decisions that improve the efficiency of operations and planning. Basic models used in the modeling of the business (single-equation and multiple-equation systems) are introduced whilst a wide range of economic activity including major aspects of financial management, demand for labour, administrative staff and labour productivity is also explored.

The book consists of Preface, Acknowledgments, six chapters which end with Conclusion and Bibliography.

Chapter 1. A Single-Equation Econometric Model: provides an overview of the essence of an econometric model, its specification, and estimation of the model's parameters as well as its verification, followed by multiplicative econometric models, the limited endogenous variables, an econometric forecasting, its concept and conditions of econometric forecast estimation; the forecasts based on single-equation models and an analysis of econometric forecasts' precision.

Chapter 2. Multiple-Equation Econometric Models: presents a classification of multiple equation models, their reduced forms and an identification of the model; estimation of the parameters of a multiple-equation econometric model and forecasts estimation based on multiple-equation models.

Chapter 3. Econometric Modeling of a Large- and Medium-Sized Enterprise's Economic System: covers a specification of a large- and medium-sized enterprise's econometric model, the structural form of an econometric model of a large- and medium-sized enterprise and an empirical econometric model of a medium-sized enterprise, its assumptions for an econometric empirical model and equation of the sales income, equation of employment, equation of labor productivity, equation of the average wage, equation of the fixed assets, equation

of the technical labor equipment and finally application of the company's model during a decision-making process.

Chapter 4. An Empirical Econometric Model of a Small-Sized Enterprise: describes specification of a small-sized enterprise's econometric model, its structural form and the model's total interdependent variables; the model's predetermined variables; a structural-form's equations of a small-sized enterprise's econometric model; an equation of the cash inflows; an equation of the sales income; an equation of ready-made production; an equation of labor efficiency; an equation of the average wage; an equation of the net payroll; the employment equation; an equation of the fixed assets; an equation of wage effectiveness; an equation of the efficiency of implementing the fixed assets; and finally practical applicability of a small-sized enterprise's model.

Chapter 5. Econometric Modeling in Management of Small-Sized Enterprise: considers the concept of financial liquidity and its measurement in a small-sized enterprise; an econometric modeling of monthly financial liquidity; an econometric modeling of quarterly financial liquidity; an econometric modeling of debt recovery efficacy; measuring the effectiveness of debt recovery in an enterprise; a statistical analysis of debt recovery efficacy in an enterprise; an econometric model describing interdependencies between the financial liquidity and the debt recovery efficacy in an enterprise; and finally an econometric forecasting of financial liquidity.

Chapter 6. Econometric Model in the Analysis of an Enterprise's Labor Resources: provides a study of a mechanism of the demand for labor; an econometric modeling of labor intensity of production; an econometric model in the selection of an efficient worker; and at the end an econometric model in the selection of an efficient white-collar worker.

In **Conclusion** the author stresses that "The purpose of this book is to invoke awareness for the need of collecting statistical data. Having adequate statistical material at one's disposition allows application of statistical and econometric tools for improving the decision-making processes and for increasing their effectiveness in an enterprise. Free software designed for dealing with those issues is currently available on the Internet". Next: "A modern *economist is a specialist who must be able to prepare, to interpret, and to indicate application of econometric and statistical decision-making tools that were discussed in this work*".

In short, the book:

- Introduces econometric methods which can be used in the modeling of economic activity and forecasting, to help improve the efficiency of business operations and planning.
- Describes econometric entities through multiple-equation and single-equation microeconomic models.

- Explores the process of building and adapting basic microeconomic tools.
- Presents numerous micro-models based on time-series data and statistical cross-sectional sequences, which can be used in any enterprise.
- Features numerous real-world applications along with examples drawn from the author's own experience.
- Is supported by a companion website featuring practice problems and statistical data to aid students to construct and estimate micro-models.
- Features end-of-chapter exercises with examples present in free software GRETLM.

This book serves as a valuable resource for students, business management practitioners and researchers in econometric micro-model construction and various decision-making processes.

It should be added that an econometric model, in the form of a single stochastic equation, is a primary tool in econometrics. The dependent variable is economic in character and represents a specific economic category.

The construction of an econometric model occurs in the following five subsequent stages:

- specification of the model,
- identification of the model,
- estimation of the model's parameters,
- verification of the model, and
- application of the model.

Estimation of the model's structural parameters and its stochastic structure parameters requires having a theoretical model as well as all necessary data collected on each variable of that model.

Application of an econometric model in managing company's finances is an example of a new approach to solving important company issues. What is considered is the problem of financial liquidity of an enterprise, in connection with effectiveness of debt collection. Here, a simplified tool for defining financial liquidity, which is expressed in the form of time series, is introduced. It therefore allows for a dynamic analysis in confrontation with the measure of efficiency of debt collection that has been defined in the book. Such analysis allows an increase in financial security, thus making management easier, especially in a small-sized company.

Knowledge of the business conducted plays a fundamental role in management. This implies the need for identification of the most important information on the company's inside as well as on its surroundings. The information generated in the accounting system is, to a large extent, regulated by the state and mainly serves the fiscal needs. A business should create its own system for collecting important information, which is not mandatory, but necessary for rationalization of business decisions. At the same time, it is important to remember that excess of information can be just as harmful as its

deficiency. This book gives an account on how to process important statistical information in business.

I highly recommend the book under review, above all, to all persons teaching business management. Those educating others, however, must possess elementary knowledge of statistics and econometrics. They can obtain this knowledge after studying the first two chapters of the book. Those teaching business can encourage students to study the entire book or its parts, depending on the needs and interests. Finally, the book can interest those preparing managerial decisions in an enterprise. Owners of small-sized enterprises, who have adequate business education, can be interested in the solutions demonstrated. They will find the solutions proposed useful in the preparation of decisions. Another important group of readers can encompass enthusiasts of applied econometrics, both in academic institutions as well as in business practice.

It should be added that computerization of the world, universal access to the Internet, emergence of free packages, allow access, collection and processing of statistical information. Application of the solutions that are proposed in the book, using modern information and computer technologies, can improve efficiency of business management, and thereby accelerate creation of wealth.

However, one should remember an acronym *GIGO* and the aphorism “*Garbage in, garbage out*” in the field of *computer science* or *information and communications technology*, which refers to the fact that *computers*, since they operate by logical processes, will unquestioningly process unintended, even nonsensical, *input data* (“*garbage in*”) and produce undesired, often nonsensical, *output* (“*garbage out*”). The principle applies to other fields as well. It was popular in the early days of computing, but applies even more today, when powerful computers can produce large amounts of erroneous information in a short time. I would like to stress that in the book under review the quality of statistical information is properly treated. From my practice I may conclude that in many cases, simple analytic models perform well, therefore the biggest performance increase comes from the data. At the end I would like to quote B. Baesens: “*The best way to improve the performance of a scorecard is not to look for fancy tools or techniques, but to improve **data quality** first*”. (B. Baesen, It’s the data, you stupid! Data News, 2007).

This book is also available on the website:
www.wiley.com/go/Wisniewski/Microeconometrics