

Preface

Among the main objectives of econometrics are:

- to gauge the quality and efficiency of the current economic situation,
- to predict the future economic situation, and
- to provide recommendations on how to make future economic situation as good as possible.

One of the main difficulties in predicting the future economic situation is that this situation depends on many factors beyond our control. As a result, we cannot predict the exact future situation, we can, at best, predict probabilities of different outcomes. To gauge the quality of the future economic situation, we therefore need to measure how close is the corresponding probability distribution to the probability situation describing the ideal outcomes.

In general, a natural measure of closeness between two objects is the amount of efforts that are needed to transform the first object to the second one. For example, a natural way to gauge the closeness between two geographic distributions of goods is by the smallest number of ton-kilometers needed to transform the first distribution into the second one. For goods, it is known how to solve this transportation problem. It turns out that similar techniques can be applied in general economic situations. Because of their origin, these methods are known as Optimal Transport Methods.

How can we improve the economic situation? Our resources, our assets – in particular, our financial resources – are limited. It is therefore important to allocate these resources so as to achieve the best results.

These two directions – asset allocation and optimal transport methods – are the main topics of this book. Several papers also deal with related economic issues. Overall, papers from this volume present a good state-of-the-art slice of what has been done, what can be done, and what should be done in solving the corresponding econometric problems.

We hope that this volume will:

- help practitioners to become better knowledgeable of the state-of-the-art econometric techniques, and
- help researchers to further develop these important research directions.

We want to thank all the authors for their contributions and all anonymous referees for their thorough analysis and helpful comments.

The publication of this volume was partly supported by the Faculty of Economics of the Chiang Mai University, Thailand. Our thanks to the leadership and staff of the Chiang Mai University for providing crucial support. Our special thanks to Prof. Hung T. Nguyen for his valuable advice and constant support.

We would also like to thank Prof. Janusz Kacprzyk (Series Editor) and Dr. Thomas Ditzinger (Senior Editor, Engineering/Applied Sciences) for their support and cooperation in this publication.

December 2021
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