Peter Fuleky
Editor

Macroeconomic Forecasting in the Era of Big Data

Theory and Practice

Springer

Contents

Part I Introduction

1 Sources and Types of Big Data for Macroeconomic Forecasting 3
Philip M. E. Garboden

Part II Capturing Dynamic Relationships

2 Dynamic Factor Models 27
Catherine Doz and Peter Fuleky

3 Factor Augmented Vector Autoregressions, Panel VARs, and Global VARs 65
Martin Feldkircher, Florian Huber, and Michael Pfarrhofer

4 Large Bayesian Vector Autoregressions 95
Joshua C. C. Chan

5 Volatility Forecasting in a Data Rich Environment 127
Mauro Bernardi, Giovanni Bonaccolto, Massimiliano Caporin, and Michele Costola

6 Neural Networks 161
Thomas R. Cook

Part III Seeking Parsimony

7 Penalized Time Series Regression 193
Anders Bredahl Kock, Marcelo Medeiros, and Gabriel Vasconcelos

8 Principal Component and Static Factor Analysis 229
Jianfei Cao, Chris Gu, and Yike Wang

9 Subspace Methods 267
Tom Boot and Didier Nibbering

10 Variable Selection and Feature Screening 293
Wanjun Liu and Runze Li

Part IV Dealing with Model Uncertainty

11 Frequentist Averaging 329
Felix Chan, Laurent Pauwels, and Sylvia Soltyk

12 Bayesian Model Averaging 359
Paul Hofmarcher and Bettina Grün

13 Bootstrap Aggregating and Random Forest 389
Tae-Hwy Lee, Aman Ullah, and Ran Wang

14 Boosting 431
Jianghao Chu, Tae-Hwy Lee, Aman Ullah, and Ran Wang

15 Density Forecasting 465
Federico Bassetti, Roberto Casarin, and Francesco Ravazzolo

16 Forecast Evaluation 495
Mingmian Cheng, Norman R. Swanson, and Chun Yao

Part V Further Issues

17 Unit Roots and Cointegration 541
Stephan Smeekes and Etienne Wijler

18 Turning Points and Classification 585
Jeremy Piger

19 Robust Methods for High-Dimensional Regression and Covariance Matrix Estimation 625
Marco Avella-Medina

20 Frequency Domain 655
Felix Chan and Marco Reale

21 Hierarchical Forecasting 689
George Athanasopoulos, Puwasala Gamakumara, Anastasios Panagiotelis, Rob J. Hyndman, and Mohamed Affan