Preface

In this book, I highlight the developments in Kalman filtering subject to general linear constraints. Essentially, the material to be presented is almost entirely based on the results and examples originally developed in Pizzinga et al. (2008a), Cerqueira et al. (2009), Pizzinga (2009, 2010), Souza et al. (2011), Pizzinga et al. (2011), and Pizzinga (2012). There are fundamentally three kinds of topics: (a) new proofs for already established results within the restricted Kalman filtering literature; (b) additional results that are should shed light on theoretical and methodological frameworks for linear state space modeling under linear restrictions; and (c) applications in investment analysis and in macroeconomics, where the proposed methods are illustrated and evaluated. At the end, I briefly discuss some extensions in the subject, which, again, step into theory, methods, and applications.

It is important to mention that my doctoral thesis, of which this book is a major revision, would not have been completed without the financial support from CNPq and FAPERJ. I would like to thank my friends and colleagues who have been important in my professional and personal life. I'd rather not list each one of them here, because they know who they are – and I refuse to run the risk of failing to mention someone.

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Finally, I am grateful to my parents, Rose Nanie Heringer da Silva and Rodolfo Domenico Pizzinga, for their support. Furthermore, I must dedicate this book to my

mother, to whom I am eternally indebted for her remarkable help and understanding throughout my life – and also for her invaluable support on proofreading my scientific texts, including this book.

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