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Bayesian methods are increasingly becoming attractive to researchers in many fields. Econometrics, however, is a field in which Bayesian methods have had relatively less influence. A key reason for this absence is the lack of a suitable advanced undergraduate or graduate level textbook. Existing Bayesian books are either out-dated, and hence do not cover the computational advances that have revolutionized the field of Bayesian econometrics since the late 1980s, or do not provide the broad coverage necessary for the student interested in empirical work applying Bayesian methods. For instance, Arnold Zellner's seminal Bayesian econometrics book (Zellner, 1971) was published in 1971. Dale Poirier's influential book (Poirier, 1995) focuses on the methodology and statistical theory underlying Bayesian and frequentist methods, but does not discuss models used by applied economists beyond regression. Other important Bayesian books, such as Bauwens, Lubrano and Richard (1999), deal only with particular areas of econometrics (e.g. time series models). In writing this book, my aim has been to fill the gap in the existing set of Bayesian textbooks, and create a Bayesian counterpart to the many popular non-Bayesian econometric textbooks now available (e.g. Greene, 1995). That is, my aim has been to write a book that covers a wide range of models and prepares the student to undertake applied work using Bayesian methods.

This book is intended to be accessible to students with no prior training in econometrics, and only a single course in mathematics (e.g. basic calculus). Students will find a previous undergraduate course in probability and statistics useful; however Appendix B offers a brief introduction to these topics for those without the prerequisite background. Throughout the book, I have tried to keep the level of mathematical sophistication reasonably low. In contrast to other Bayesian and comparable frequentist textbooks, I have included more computer-related material. Modern Bayesian econometrics relies heavily on the computer, and developing some basic programming skills is essential for the applied Bayesian. The required level of computer programming skills is not that high, but I expect that this aspect of Bayesian econometrics might be most unfamiliar to the student