

High Dimensional Sparse Econometric Models: An Introduction

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In this chapter we discuss conceptually high dimensional sparse econometric models as well as estimation of these models using L1-penalization and post-L1-penalization methods. Focusing on linear and nonparametric regression frameworks, we discuss various econometric examples, present basic theoretical results, and illustrate the concepts and methods with Monte Carlo simulations and an empirical application. In the application, we examine and confirm the empirical validity of the Solow-Swan model for international economic growth.

Subjects: **Applications (stat.AP)**; Methodology (stat.ME)

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