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*Issues in Forecasting: Theory and Practice*

**Summary**

*1. Basic concepts*

Decision theory, risk, loss functions, action rules and optimal forecasts. MSE loss, linex, lin-lin, general families. Information set.

*2. Properties of optimal forecasts.*

Properties under MSE. Optimal bias, non-robustness under more general loss. Multi-period forecasts. Loss-neutral density. Importance of forecast horizon. Time-varying bias.

*3. Approximation methods.*

True versus approximate model, Wold, fast fourier transforms, neural nets. Multi-period forecasting with non-linear models.

*4. Estimating known functional forms*

Irrelevance of Gauss-Markov, shrinkage, M-estimation.

*5. Model selection, encompassing*

Information criteria, single model versus combination of models

*6. Model averaging or combination*

Optimal combination weights in population, role of bias, Bayesian averaging, model uncertainty

*7. Forecast Evaluation*

Rolling window, recursive least squares, Diebold-Mariano Test, West test.

*8. Rationality tests*

Mincer-Zarnowitz tests of unbiasedness. Empirical illustrations: OECD/Survey of Professional Forecasters.

*9. Interval, Density forecasting*

Non-parametric, parametric methods for constructing these forecasts. Evaluation.

*10. Forecasting under Model instability*

Kalman Filter, breaks, regime switching.

*11. Forecasting with nonstationary variables*

Level vs Differences, unit roots, ECM's.

*12. Financial Forecasting*

Sign prediction, volatility forecasting, VaR, optimal portfolio allocation, market efficiency.