

Thomas, R.L. (1993), Introductory Econometrics: Theory and Applications, Second Edition, Harlow, Longman.

COMPUTER PROGRAM:

The course makes use of the econometric software package **Microfit 4.0 for Windows**. This package is published by Oxford University Press and can be accessed from the Faculty's PC Network. Copies of the **Microfit 4.0 for Windows** manual:

Pesaran, M.H. and B. Pesaran (1997), Working with Microfit 4.0: Interactive Econometric Analysis (DOS or Windows versions) Oxford University Press, Oxford, UK.

are available in the Marshall Library and in some college libraries.

COURSE OUTLINE:

Part I: Methodological issues

1. Purpose and scope of econometric analysis

Interaction of theory and evidence in economic analysis. Role of econometrics in applied economics. Econometric models and their uses; pedagogic, empirical evaluation of rival theories, forecasting, and policy evaluations.

Gujarati, D.N. (1995), Basic Econometrics, Chapter 1.

Pesaran M.H. (1987), "Econometrics", in the New Palgrave Dictionary, Vol. II.

2. Practical issues in data analysis

Examples using financial data. The properties of financial data (fat-tailness, skewness, volatility and mean reversion). The relationship between dividends and stock prices. A statistical model of returns. An economic model of returns based on the present value relationship between dividends and stock prices. The predictability of asset returns.

The time series data used in these examples are contained in the special **Microfit** files, EXDAILY.FIT and PTMONTH.FIT. For information on how to download this file from the Faculty's network see the handout "Introduction to Microfit 4.0 for Windows".

<http://www.econ.cam.ac.uk/faculty/pesaran/teaching.htm>

Some useful references

Fama, E., (1970) Efficient Capital Markets: A Review of Theory and Empirical Work, *Journal of Finance*, 25, pp. 383-417.

* Fama, E., (1991) Efficient Capital Markets: II, *Journal of Finance*, 46, pp. 1575-1618.

* Pesaran, M.H., and A. Timmermann, (1994), Forecasting Stock Returns: An Examination of Stock Market Trading in the Presence of Transaction Costs, *Journal of Forecasting*, 1994, 13, pp.335-367.

Pesaran, M.H., and A. Timmermann, (2000), Recursive Modelling Approach to Predicting UK Stock Returns, *Economic Journal*, 110, pp.159-191.

3. Simple dynamic models

Simple time series models. Partial adjustment models. Error correction models. Adaptive expectations models. Simple models with unit roots (the random walk hypothesis, its genesis and consequences for applied research). Testing for unit roots.

Gujarati Chs. 17 and 21, **Kelejian and Oates** Ch. 5, **Pesaran**, Ch. 2 of The Limits to Rational Expectations, Basil Blackwell, **Thomas** (1997) Chs. 11-14.

Part II: Applications

1. Determination of Exchange Rates in the UK

An Overview of the Facts

- Construction of a UK-relevant foreign prices index
- Domestic and foreign price movements and their time series properties
- Trends in Sterling's effective exchange rates and its time series properties

Theoretical Considerations

- Structural models of exchange rates
 - Monetary model
 - Portfolio balance model
- Purchasing power parity

Empirical Results

- Unit root tests applied to prices indexes
- Unit root tests applied to nominal and real exchange rates

Microfit data file

The time series data used in this application are contained in a special **Microfit** file, ER.FIT. For information on how to download this file from the Faculty's network see the handout "Introduction to Microfit 4.0 for Windows".

Some useful references

Backhouse, Ch. 11.

Dornbusch, R. (1980), "Exchange Rate Economics: Where do we stand?", Brookings Papers on Economic Activity.

MacDonald, R. and M. Taylor (1992), "Exchange Rate Economics: A survey", IMF Staff Papers, 39, pp. 1-57.

- * Svensson, L. (1994), "Fixed Exchange Rates as a Means to Price Stability: What have we learned?", European Economic Review, 38, pp. 447-468.

Taylor, M. (1995), "The Economics of Exchange Rates", Journal of Economic Literature, 33, pp. 13-47.

Rogoff, K. (1996), "The Purchasing Power Parity Puzzle", Journal of Economic Literature, 34, pp. 647-648.

2. Simple Models of Investment: Applications to the UK Manufacturing Sector

Theoretical Models of Investment

Fixed and flexible accelerator models
Profit (net and gross) theory of investment
Neoclassical model (Jorgenson's version)

Measurement Problems

Measurement of capital stock
Estimates of output, profit and investment
Statistical sources

Empirical Evidence for UK Manufacturing

Microfit data file

The time series data used in this application are taken from the ONS Databank, and are available in **Microfit** format on the Faculty's PC Network. The file name is INV.FIT. For information on how to download this file from the Faculty's network see the handout "Introduction to Microfit 4.0 for Windows".

Some useful references

Backhouse, Ch. 3.

- * Berndt, E.R. (1990), The Practice of Econometrics: Classic and Contemporary, Addison Wesley, Chapter 6.

- * Driver, C. and D. Moreton (1991), "The Influence of Uncertainty on UK Manufacturing Investment", The Economic Journal, 101, pp. 1452-59.

Griffin, T. (1975), "Revised Estimates of the Consumption and Stock of Fixed Capital", Economic Trends, October.

Griffin, T. (1976), "The Stock of Fixed Assets in the United Kingdom: How to make best use of the statistics", Economic Trends, October.

Peterson, W. (1987), "Fixed Investment", Chapter 8 in The Cambridge Multi-sectoral Dynamic Model of the British Economy, CUP.

- * Wallis, K.F. et al. (1987), “Econometric Analysis of Models of Investment and Stock-building”, in Models of the UK Economy, Oxford University Press, Oxford.

3. Demand Analysis and Engle Curves

Theory

The specification of demand equations
Price and income elasticities
Engel curves
Systems of demand equations

Empirical Evidence

Estimation of Engel curves using cross-sections
Estimation of an Almost Ideal Demand System

Microfit data files

The data for this application are taken from the 1989 cross-section of the Panel Study of Income Dynamics. The data are available in **Microfit** format on Faculty's PC Network. The file PSIDH.FIT contains information on individual households; the file PSIDG.FIT contains data for income groups. The **Excel** file AIDS.XLS contains time series observations on household expenditure for six categories for the Netherlands, 1948-1988 (41 years). The source of these data is Magnus and Morgan (1997). The **Microfit** batch file AIDS.BAT performs a number of data transformations. For information on how to download these files from the Faculty's network see the handout “Introduction to Microfit 4.0 for Windows”.

Some useful references

- * **Thomas** (1993), Ch. 9.

Magnus, J.R and M.S. Morgan (1997), “The Data: a Brief Description”, Journal of Applied Econometrics, Vol.12, pp. 651-661.
- * Tobin, J. (1950), “A Statistical Demand Function for Food in the USA”, Journal of the Royal Statistical Society, Part II, Vol. 63, pp. 113-142. Also see the comments that follow this article.

Prais, S.J. and H.S. Houthakker (1955), The Analysis of Family Budgets, Cambridge University Press, Ch. 7.

van Driel, H., Nadall, V. and K. Zeelenberg (1997), “The Demand for Food in the United States and the Netherlands: A Systems Approach with the CBS Model,” Journal of Applied Econometrics, Vol. 12, pp. 509-532. Also see the other articles in this special issue.

4. Growth and Convergence

Neoclassical and Other Theories of Growth

Solow's model and its extensions
Endogenous theories of growth

Empirical Evidence

Cross-sectional and time series analysis

Microfit data files

The cross-section data file for this application is taken from the study by Mankiw, Romer and Weil (1992) and is available in **Microfit** format on the Faculty's PC network. The file name is MRW.FIT. The time series data file YIOECD.FIT contains annual observations on the (natural) logarithm of output per capita (LY) and investment-output ratio (IY) for 22 OECD economies over the period 1961-1989 (29 years). The observations are stacked so that the first 29 observations are on country 1, the next 29 on country 2 etc.. The source of both data sets is Summers and Heston (1988, 1991). For information on how to download these files from the Faculty's network see the handout "Introduction to Microfit 4.0 for Windows".

Some useful references

- * Barro, R.J. and X. Sala-i-Martin (1995), Economic Growth, McGraw-Hill, New York. Chs. 1 and 10.
- Durlauf, S.N. (1996), "On the Convergence and Divergence of Growth Rates", The Economic Journal, Vol. 106, pp. 1016-1018. Also see the articles that follow this introduction.
- Lee, K., M.H. Pesaran, and R. Smith (1997), "Growth and Convergence in a Multi-Country Empirical Stochastic Solow Model", Journal of Applied Econometrics, Vol. 12, pp.357-392.
- * Mankiw, N.G., D. Romer and D.N. Weil (1992), "A Contribution to the Empirics of Economic Growth", Quarterly Journal of Economics, Vol. 107, pp. 407-437.
- * Solow, R.M. (1956), "A Contribution to the Theory of Economic Growth", Quarterly Journal of Economics, Vol. 70, pp. 65-94.
- Summers, R. and A. Heston (1988), "A New Set of International Comparisons of Real Product and Price Levels: Estimates for 130 Countries", Review of Income and Wealth, Vol. 34, pp. 1-25. Also see the QJE 1991 article by the same authors.

References marked with "*" are particularly recommended.