SELECTED READINGS

Focus on: David F. Hendry

November 2009

INDEX

INTRODUCTION

David Hendry was born in in 1944. He obtained an M.A. in economics from the University of Aberdeen in 1966 and then went to the London School of Economics and completed a M.Sc. in econometrics and mathematical economics in 1967 and a Ph.D. in economics in 1970 under Denis Sargan. His doctoral thesis (The Estimation of Economic Models with Autoregressive Errors) provided intellectual seeds for his future research on the development of an integrated approach to modeling economic time series. David Hendry was appointed to a lectureship at the LSE while finishing his thesis and to a professorship at the LSE in 1977. In 1982, he moved to Oxford University as a professor of economics and a fellow of Nuffield College. He is currently an ESRC Professorial Research Fellow and the head of the department of economics.

Much of Hendry 's research has focused on constructing a unified approach to empirical modeling of economic time series. General-to-specific modeling is an important aspect of this empirical methodology, which has become commonly known as the "LSE" or "Hendry" approach. He is widely recognized as the most vocal advocate and ardent contributor to this methodology. His research also has aimed to make this methodology widely available and easy to implement, both through publicly available software packages that embed the methodology (notably, PcGive and PcGets) and by substantive empirical applications of the methodology.

Hendry 's research has many strands: deriving and analyzing methods of estimation and inference for non-stationary time series; developing Monte Carlo techniques for investigating the small-sample properties of econometric techniques; developing software for econometric analysis; exploring alternative modeling strategies and empirical methodologies; analyzing concepts and criteria for viable empirical modeling of time series, culminating in computer automated procedures for model selection; and evaluating these developments in simulation studies and in empirical investigations of consumer expenditure, money demand, inflation, and the housing and mortgage markets. Over the last dozen years, and in tandem with many of these

developments on model design, Hendry has reassessed the empirical and theoretical literature on forecasting, leading to new paradigms for generating and interpreting economic forecasts.

Hendry has held many prominent appointments in professional bodies. He has served as president of the Royal Economic Society; editor of the Review of Economic Studies, the Economic Journal, and the Oxford Bulletin of Economics and Statistics; associate editor of Econometrica and the International Journal of Forecasting; president (Section F) of the British Association for the Advancement of Science; chairman of the UK's Research Assessment Exercise in economics; and special adviser to the House of Commons, both on monetary policy and on forecasting. He is a chartered statistician, a fellow of the British Academy and of the Royal Society of Edinburgh, and a fellow and council member of the Econometric Society. Among his many awards and honors, Hendry has received the Guy Medal in Bronze from the Royal Statistical Society and honorary degrees from the Norwegian University of Science and Technology, Nottingham University, St. Andrews University, the University of Aberdeen, and the University of St. Gallen.

The following list is a non-exhaustive, subjective selection of David F. Hendry's publications.

More information can be found at:

- The address of David Hendry 's homepage at:

http://www.nuff.ox.ac.uk/users/hendry/

Contact point: GianLuigi Mazzi, "Responsible for Euro-indicators and statistical methodology", Estat - D1 "Key Indicators for European Policies" gianluigi.mazzi@ec.europa.eu.

WORKING PAPERS AND ARTICLES

1.1 Jennifer L. Castle & David F. Hendry, 2008. "The Long-Run Determinants of UK Wages, 1860-2004," Economics Series Working Papers 409, University of Oxford, Department of Economics.

As it is almost 50 years since Phillips (1958), we analyze an historical series on UK wages and their determinants. Huge changes have occurred over this long run, so congruence is hard to establish: real wages have risen more than 6 fold, and nominal 500 times; laws, technology, wealth distribution, and social structure are unrecognizably different from 1860. We investigate: wage rates and weekly earnings; real versus nominal wages; breaks over 1860-2004; non-linearities, including Phillips' non-linear response to unemployment; 'trade union power' and unemployment benefits; and measures of excess demand, where workers react more to inflation when it rises.

Full text available on-line at:

http://www.economics.ox.ac.uk/Research/wp/pdf/paper409.pdf

1.2 Jennifer L. Castle, Nicholas W.P. Fawcett & David F. Hendry, 2008. "Forecasting with Equilibrium-correction Models during Structural Breaks," Economics Series Working Papers 408, University of Oxford, Department of Economics.

When breaks occur, equilibrium-correction models (EqCMs) based on cointegration face forecasting problems. We investigate approaches to alleviate forecast failure following a location shift, including updating, intercept corrections, differencing, and estimating the future impact of an 'internal' break during its progress. Although updating can lead to a loss of cointegration when an EqCM suffers an equilibrium-mean shift, we show that updating can help when collinearities are changed by an 'external' break and the EqCM itself remains constant. Both mechanistic corrections help compared to just retaining a pre-break estimated model, but an estimated model of the break process could outperform. Throughout, we apply the approaches to the

much-studied example of EqCMs for UK M1, and compare with updating a learning function as the break evolves.

Full text available on-line at:

http://www.economics.ox.ac.uk/Research/wp/pdf/paper408.pdf

1.3 David F. Hendry & Carlos Santos, 2007. "Automatic Tests for Super Exogeneity," Documentos de Trabalho em Economia (Working Papers in Economics) 11, Faculdade de Economia e Gestão, Universidade Católica Portuguesa (Porto)

We develop a new automatically-computable test for super exogeneity, using a variant of general-to-specific modeling. Based on the recent developments in impulse saturation applied to marginal models under the null that no impulses matter, we select the significant impulses for testing in the conditional. The approximate analytical non-centrality of the test is derived for a failure of invariance and for a failure of weak exogeneity when there is a shift in the marginal model. Monte Carlo simulations confirm the nominal significance levels under the null, and power against the two alternatives.

Full text available on-line at:

http://dspace.feg.porto.ucp.pt:8080/dspace/bitstream/2386/104/1/112007+-+Hendry+e+Santos+-+Automatic+Tests+for+Super+Exogeneity.pdf

1.4 Jennifer L. Castle & David F. Hendry, 2007. "Forecasting UK Inflation: the Roles of Structural Breaks and Time Disaggregation," Economics Series Working Papers 309, University of Oxford, Department of Economics.

Structural models` inflation forecasts are often inferior to those of naive devices. This chapter theoretically and empirically assesses this for UK annual and quarterly inflation, using the theoretical framework in Clements and Hendry (1998, 1999). Forecasts from equilibrium-correction mechanisms, built by automatic model selection, are compared to various robust devices. Forecast-error taxonomies for aggregated and time-disaggregated information reveal that the impacts of structural breaks are identical between these, so no gain results, helping interpret the empirical

findings. Forecast failures in structural models are driven by their deterministic terms, confirming location shifts as a pernicious cause thereof, and explaining the success of robust devices.

Full text available on-line at:

http://www.economics.ox.ac.uk/Research/wp/pdf/paper309.pdf

1.5 David F. Hendry, Soren Johansen & Carlos Santos, 2007. "Selecting a Regression Saturated by Indicators," Discussion Papers 07-26, University of Copenhagen, Department of Economics.

We consider selecting a regression model, using a variant of Gets, when there are more variables than observations, in the special case that the variables are impulse dummies (indicators) for every observation. We show that the setting is unproblematic if tackled appropriately, and obtain the finite-sample distribution of estimators of the mean and variance in a simple location-scale model under the null that no impulses matter. A Monte Carlo simulation confirms the null distribution, and shows power against an alternative of interest.

Full text available on-line at:

http://www.econ.ku.dk/Research/Publications/pink/2007/0726.pdf

1.6 Jennifer L. Castle & David F. Hendry, 2007. "A Low-Dimension Collinearity-Robust Test for Non-linearity," Economics Series Working Papers 326, University of Oxford, Department of Economics.

A new test for non-linearity is developed using weighted combinations of regressor powers based on the eigenvectors of the variance-covariance matrix. The test extends the ingenious test for heteroskedasticity proposed by White (1980), but both circumvents problems of high dimensionality and collinearity, and allows inclusion of cubic functions to ensure power against asymmetry or skewness. A Monte Carlo analysis compares the performance of the test to the optimal infeasible test and to a variant of White`s test. The relative performance of the test is encouraging: the test has the appropriate size and has high power in many situations. Furthermore, collinearity between regressors can increase the power of the test.

Full text available on-line at:

http://www.economics.ox.ac.uk/Research/wp/pdf/paper326.pdf

1.7 David F. Hendry & Kirstin Hubrich, 2006. "Forecasting Economic Aggregates by Disaggregates," Working Paper Series 589, European Central Bank.

We explore whether forecasting an aggregate variable using information on its disaggregate components can improve the prediction mean squared error over first forecasting the disaggregates and then aggregating those forecasts, or, alternatively, over using only lagged aggregate information in forecasting the aggregate. We show theoretically that the first method of forecasting the aggregate should outperform the alternative methods in population. We investigate whether this theoretical prediction can explain our empirical findings and analyze why forecasting the aggregate using information on its disaggregate components improves forecast accuracy of the aggregate forecast of euro area and US inflation in some situations, but not in others.

Full text available on-line at:

http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp589.pdf

1.8 Julia Campos, Neil R. Ericsson & David F. Hendry, 2005. "General-to-specific modeling: an overview and selected bibliography," International Finance Discussion Papers 838, Board of Governors of the Federal Reserve System (U.S.)

This paper discusses the econometric methodology of general-to-specific modeling, in which the modeler simplifies an initially general model that adequately characterizes the empirical evidence within his or her theoretical framework. Central aspects of this approach include the theory of reduction, dynamic specification, model selection procedures, model selection criteria, model comparison, encompassing, computer automation, and empirical implementation. This paper thus reviews the theory of reduction, summarizes the approach of general-to-specific modeling, and discusses the econometrics of model selection, noting that general-to-specific modeling is the practical embodiment of reduction. This paper then summarizes fifty-seven articles key to the development of general-to-specific modeling.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/2005/838/ifdp838.pdf

1.9 Guillaume Chevillon & David F. Hendry, 2004. "Non-Parametric Direct Multi-step Estimation for Forecasting Economic Processes," Economics Series Working Papers 196, University of Oxford, Department of Economics.

We evaluate the asymptotic and finite-sample properties of direct multi-step estimation (DMS) for forecasting at several horizons. For forecast accuracy gains from DMS in finite samples, mis-specification and non-stationarity of the DGP are necessary, but when a model is well-specified, iterating the one-step ahead forecasts may not be asymptotically preferable. If a model is mis-specified for a non-stationary DGP, in particular omitting either negative residual serial correlation or regime shifts, DMS can forecast more accurately. Monte Carlo simulations clarify the non-linear dependence of the estimation and forecast biases on the parameters of the DGP, and explain existing results.

Full text available on-line at:

http://www.economics.ox.ac.uk/Research/wp/pdf/paper196.pdf

1.10 David F. Hendry, 2004. "Unpredictability and the Foundations of Economic Forecasting," Economics Group, Nuffield College, University of Oxford in its series Economics Papers with number 2004-W15.

We revisit the concept of unpredictability to explore its implications for forecasting strategies in a non-stationary world subject to structural breaks, where model and mechanism differ. Six aspects of the role of unpredictability are distinguished, compounding the four additional mistakes most likely in estimated forecasting models. Structural breaks, rather than limited information, are the key problem, exacerbated by conflicting requirements on `forecast-error corrections'. We consider model transformations and corrections to reduce forecast-error biases, as usual at some cost in increased forecast-error variances. The analysis is illustrated by an empirical application to M1 in the UK.

Full text available on-line at:

http://www.nuff.ox.ac.uk/Economics/Papers/2004/w15/ForcBasis.pdf

1.11 David F. Hendry & Carlos Santos, 2004. "Regression Models with Data-based Indicator Variables," Economics Papers 2004-W04, Economics Group, Nuffield College, University of Oxford.

OLS estimation of an impulse-indicator coefficient is inconsistent, but its variance can be consistently estimated. Although the ratio of the inconsistent estimator to its standard error has a t distribution, that test is inconsistent: one solution is to form an index of indicators. We provide Monte Carlo evidence that including a plethora of indicators need not distort model selection, permitting the use of many dummies in a general-to-specific framework. Although White's (1980) heteroskedasticity test is incorrectly sized in that context, we suggest an improvement. Finally a possible modification to impulse 'intercept corrections' is considered.

Full text available on-line at:

http://www.nuff.ox.ac.uk/economics/papers/2004/W4/CSDFHindicators03a.pdf

1.12 David F. Hendry & Hans-Martin Krolzig, 2003. "Sub-sample Model Selection Procedures in Gets Modelling," Economics Papers 2003-W17, Economics Group, Nuffield College, University of Oxford.

When the DGP is nested in the model, PcGets delivers high performance selection across different (unknown) states of nature. One of its steps involves sub-sample post-selection assessment, and here we consider its properties and investigate its practical application. The simulation results show that conditional on retaining a variable, sub-sample information cannot discriminate between substantive and adventitious significance. The Monte Carlo experiments also reveal that the sub-sample selection method suggested by Hoover and Perez (1999) is dominated by procedures selecting only on full-sample evidence, when both approaches are evaluated at a given size. Nevertheless, although the sub-sample procedures do not result in a genuinely beneficial trade-off between size and power, they are particularly successful in

controlling the size for selection problems that were previously seemed almost intractable.

Full text available on-line at:

http://www.nuff.ox.ac.uk/economics/papers/2003/W17/dfhhmk03b.pdf

1.13 David F. Hendry & Hans-Martin Krolzig, 2003. "The Properties of Automatic Gets Modelling," Royal Economic Society Annual Conference 2003 105, Royal Economic Society.

We describe some recent developments in PcGets, and consider their impact on its performance across different (unknown) states of nature. We discuss the consistency of its selection procedures, and examine the extent to which model selection is non-distortionary at relevant sample sizes. The problems posed in judging performance on collinear data are noted. We also describe how PcGets has been extended to assist non-experts in model formulation, handle more variables than observations, and tackle non-linear models.

Full text available on-line at:

http://repec.org/res2003/Hendry.pdf

1.14 David F. Hendry & Michael P. Clements, 2002. "Economic Forecasting: Some Lessons from Recent Research," Royal Economic Society Annual Conference 2002 99, Royal Economic Society.

We describe a general theoretical framework against which recent results in economic forecasting can be judged, including explanations for the findings of forecasting competitions, the prevalence of forecast failure, and the role of causal variables. We compare this framework to a previous formulation which was silent on the very issues of most concern to the forecaster, then describe ten aspects which our approach illuminates, and draw out their implications for model selection. Finally, we discuss ten areas where research is needed to clarify empirical findings that still lack theoretical explanations.

Full text available on-line at:

http://repec.org/res2002/Hendry.pdf

1.15 David F. Hendry, Maozu Lu & Grayham E. Mizon, 2001. "Model Identification and Non-unique Structure," Economics Papers 2002-W10, Economics Group, Nuffield College, University of Oxford.

Identification is an essential attribute of any model's parameters, so we consider its three aspects of 'uniqueness', 'correspondence to reality' and 'interpretability'. Observationally-equivalent over-identified models can co-exist, and are mutually encompassing in the population; correctly-identified models need not correspond to the underlying structure; and may be wrongly interpreted. That a given model is over-identified with all over-identifying restrictions valid (even asymptotically) is insufficient to demonstrate that it is a unique representation. Moreover, structure (as invariance under extended information) need not be identifiable. We consider the role of structural breaks to discriminate between such representations.

Full text available on-line at:

http://www.nuff.ox.ac.uk/economics/papers/2002/w10/DEISTGEM.pdf

1.16 David F. Hendry & Grayham E. Mizon, 2001. "Forecasting in the Presence of Structural Breaks and Policy Regime Shifts," Economics Papers 2002-W12, Economics Group, Nuffield College, University of Oxford.

The value of selecting the best forecasting model as the basis for empirical economic policy analysis is questioned. When no model coincides with the data generation process, non-causal statistical devices may provide the best available forecasts: examples from recent work include intercept corrections and differenced-data VARs. However, the resulting models need have no policy implications. A 'paradox' may result if their forecasts induce policy changes which can be used to improve the statistical forecast. This suggests correcting statistical forecasts by using the econometric model's estimate of the 'scenario' change, and doing so yields reduced biases.

Full text available on-line at:

http://www.nuff.ox.ac.uk/economics/papers/2002/w12/DFHGEMTom.pdf

1.17 David F. Hendry & Michael P. Clements, 2001. "Pooling of Forecasts," Economics Papers 2002-W9, Economics Group, Nuffield College, University of Oxford.

We consider forecasting using a combination, when no model coincides with a non-constant data generation process (DGP). Practical experience suggests that combining forecasts adds value, and can even dominate the best individual device. We show why this can occur when forecasting models are differentially mis-specified, and is likely to occur when the DGP is subject to deterministic shifts. Moreover, averaging may then dominate over estimated weights in the combination. Finally, it cannot be proved that only non-encompassed devices should be retained in the combination. Empirical and Monte Carlo illustrations confirm the analysis.

Full text available on-line at:

http://www.nuff.ox.ac.uk/economics/papers/2002/w9/DFHMPCFrcncEctJ.pdf

1.18 David F. Hendry & Mizon, G.E., 2001. "Reformulating Empirical Macro-econometric modelling," Discussion Paper Series in Economics and Econometrics 0104, Economics Division, School of Social Sciences, University of Southampton.

The policy implications of estimated macro-econometric systems depend on the formulations of their equations, the methodology of empirical model selection and evaluation, the techniques of policy analysis, and their forecast performance. Drawing on recent results in the theory of forecasting, we question the role of `rational expectations'; criticize a common approach to testing economic theories; show that impulse-response methods of evaluating policy are seriously flawed; and question the mechanistic derivation of forecasts from econometric systems. In their place, we propose that expectations should be treated as instrumental to agents' decisions; discuss a powerful new approach to the empirical modeling of econometric relationships; offer viable alternatives to studying policy implications; and note modifications to forecasting devices that can enhance their robustness to unanticipated structural breaks.

Full text available on-line at:

http://www.econ.utah.edu/~ehrbar/erc2002/pdf/i022.pdf

1.19 David F. Hendry, 2000. "Modelling UK Inflation over the Long Run," Economics Series Working Papers 002, University of Oxford, Department of Economics.

UK inflation varied greatly over 1865-1990, in response to many policy and exchange-rate regimes, two world wars and oil crises, and major legislative, and technological changes. It is modeled as responding to excess demands from all sectors of the economy: goods and services, factors of production, money, financial assets, foreign exchange, and government deficits, using indicator variables and commodity prices for special factors. Equilibrium-correction terms are developed for each of these. Variables representative of most theories of inflation mattered empirically over the sample, yielding an electric model which refutes any 'single cause' explanation.

Information for download:

Full text available on-line at:

http://www.economics.ox.ac.uk/index.php/papers/details/modelling_uk_inflation_over_the_long_run/

1.20 David F. Hendry, 2000. "Forecast Failure, Expectations Formation, and the Lucas Critique," Economics Papers 2002-W8, Economics Group, Nuffield College, University of Oxford.

Since forecast failure is due to unanticipated large shifts in deterministic factors, 'sensible' agents should adopt 'robust forecasting rules'. Unless the model coincides with the generating mechanism, one cannot even prove that causal variables will dominate non-causal in forecasting. In such a non-stationary world, 'rational expectations' do not have an epistemologically-sound basis: agents cannot know how all relevant information enters the joint data density at every point in time. Thus, although econometric models 'break down' intermittently when deterministic shifts occur, that is not due to the Lucas critique and need not impugned their value for policy analyses.

Full text available on-line at:

http://www.nuff.ox.ac.uk/economics/papers/2002/w8/FFlucas.pdf

1.21 David F. Hendry & Michael P. Clements, 2000. "Forecasting with Difference-Stationary and Trend-Stationary Models," Economics Series Working Papers 005, University of Oxford, Department of Economics.

Although difference-stationary (DS) and trend-stationary (TS) processes have been subject to considerable analysis, there are no direct comparisons for each being the data-generation process (DGP). We examine incorrect choice between these models for forecasting for both known and estimated parameters. Three sets of Monte Carlo simulations illustrate the analysis, to evaluate the biases in conventional standard errors when each model is mis-specified, compute the relative mean-square forecast errors of the two models for both DGPs, and investigate autocorrelated errors, so both models can better approximate the converse GDP. The outcomes are surprisingly different from established results.

Full text available on-line at:

Information for download:
http://www.economics.ox.ac.uk/index.php/papers/details/forecasting_with_difference_stationary_and_trend_stationary_models/

1.22 David F. Hendry, 2000. "A General Forecast-error Taxonomy," Econometric Society World Congress 2000 Contributed Papers 0608, Econometric Society.

The paper considers the sources of forecast errors and their consequences in an evolving economy subject to structural breaks, forecasting from mis-specified, data-based models. A model-free taxonomy of forecast errors highlights that deterministic shifts are a major cause of systematic forecast failure. Other sources seem to pose fewer problems. The taxonomy embeds several previous model-based taxonomies for VARs, VECMs, and multi-step estimators, and reveals the stringent requirements that rationality assumptions impose on economic agents.

Full text available on-line at:

http://fmwww.bc.edu/RePEc/es2000/0608.pdf

1.23 Beyer A., Doornik J.A. & David F. Hendry, 2000. "Constructing Historical Euro-Zone Data," Economics Working Papers eco2000/10, European University Institute.

Existing methods of reconstructing historical Euro-zone data by aggregation of the individual countries' data raises numerous difficulties due to past exchange rate changes. The approach proposed here is designed to avoid such distortions, and aggregate exactly when exchange rates are fixed. In a simple 'Divisa-style' approach, we first compute growth rates within states, aggregate these, then cumulate this Euro-zone growth rate to obtain the aggregated levels variables. We investigate the properties of this growth hate method for aggregation and construct Euro-zone measures for M3, GDP and prices over the previous two decades.

Information for download:

http://www3.interscience.wiley.com/cgi-bin/home?CRETRY=1&SRETRY=0

1.24 Katarina Juselius & David F. Hendry, 2000. "Explaining Cointegration Analysis: Part II," Discussion Papers 00-20, University of Copenhagen. Department of Economics.

We describe the concept of cointegration, its implications in modeling and forecasting, and discuss inference procedures appropriate in integrated-cointegrated vector autoregressive processes (VARs). Particular attention is paid to the properties of VARs, to the modeling of deterministic terms, and to the determination of the number of cointegration vectors. The analysis is illustrated by empirical examples.

Full text available on-line at:

http://www.econ.ku.dk/Research/Publications/pink/2000/0020.pdf

1.25 Neil R. Ericsson, David F. Hendry & Grayham E. Mizon, 1998. "Exogeneity, cointegration, and economic policy analysis," International Finance Discussion Papers 616, Board of Governors of the Federal Reserve System (U.S.).

This overview examines conditions for reliable economic policy analysis based on econometric models, focusing on the econometric concepts of exogeneity,

cointegration, causality, and invariance. Weak, strong, and super exogeneity are discussed in general; and these concepts are then applied to the use of econometric models in policy analysis when the variables are cointegrated. Implications follow for model constancy, the Lucas critique, equation inversion, and impulse response analysis. A small money-demand model for the United Kingdom illustrates the main analytical points. This paper then summarizes the other articles in this special section of the Journal of Business and Economic Statistics on "Exogeneity, Cointegration, and Economic Policy Analysis."

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1998/616/ifdp616.pdf

1.26 Neil R. Ericsson, David F. Hendry & Kevin M. Prestwich, 1997. "The demand for broad money in the United Kingdom, 1878-1993," International Finance Discussion Papers 596, Board of Governors of the Federal Reserve System (U.S.).

Using annual data from Friedman and Schwartz (1982), Hendry and Ericsson (1991a) developed an empirical model of the demand for broad money in the United Kingdom over 1878-1975. We update that model over 1976-1993, accounting for changed data definitions and clarifying the concept of constancy. With appropriate measures of opportunity cost and credit deregulation, the model's parameters are empirically constant over the extended sample, which was economically turbulent. Policy implications follow for parameter no constancy and predictive failure, causation between money and prices, monetary targeting, deregulation and financial innovation, and the effect of policy on economic agents' behavior.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1997/596/ifdp596.pdf

1.27 David F. Hendry, 1995. "On the interactions of unit roots and exogeneity," Econometric Reviews, Taylor and Francis Journals, vol. 14(4), pages 383-419.

The paper considers the impact on estimation and inference of interactions between the existence of unit roots in a data generation process and the presence or absence of weak and strong exogeneity of conditioning variables for the parameters of interest in individual cointegrated linear relationships. The asymptotic distributions of estimators for single equation conditional linear relations are analyzed in conjunction with a Monte Carlo study. The results confirm the important role of weak exogeneity in single equation estimation from integrated cointegrated data; highlight the advantages of using an asymptotic analysis to understand the complicated interactions observed; and reveal the accuracy of the limiting distributions in characterizing finite sample behavior.

Full text available on-line at:

http://www.informaworld.com/smpp/content~db=all?content=10.1080/07474939508800329

1.28 Rebecca A. Emerson & David F. Hendry, 1994. "An evaluation of forecasting using leading indicators," Economics Papers 5., Economics Group, Nuffield College, University of Oxford.

The use of leading indicators of economic activity to forecast various economic time series is again becoming popular due to perceived forecasting failures by macro-economic systems and developments in leading-indicator theory. However, as in the case of the UK, several problems regarding the use of leading indicators in macroeconomic models should first be solved before they can be considered as essentials for economic forecasting.

Full text available at:

http://www.nuff.ox.ac.uk/economics_wp/w5/crili.zip

1.29 Neil R. Ericsson, David F. Hendry & Hong-Anh Tran, 1993. "Cointegration, seasonality, encompassing, and the demand for money in the United Kingdom," International Finance Discussion Papers 457, Board of Governors of the Federal Reserve System (U.S.).

Virtually all previous narrow money demand studies for the United Kingdom have used seasonally adjusted data for money, prices, and expenditure. This paper develops a constant, data-coherent M1 demand equation for the United Kingdom with seasonally unadjusted data. For that model, we address issues of cointegration, error correction, general to specific modeling, dynamic specification, model evaluation and testing, parameter constancy, and exogeneity. We also establish theoretical and empirical relationships between seasonally adjusted and unadjusted data, and so between models using those data. Finally, we derive and implement encompassing tests for comparing models using adjusted data with models using unadjusted data. Unlike the "standard" encompassing framework, variance dominance is not always a necessary condition for encompassing.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1993/457/ifdp457.pdf

1.30 Julia Campos, Neil R. Ericsson & David F. Hendry, 1993. "Cointegration tests in the presence of structural breaks," International Finance Discussion Papers 440, Board of Governors of the Federal Reserve System (U.S.).

Structural breaks in stationary time series can induce apparent unit roots in those series. Thus, using recently developed recursive Monte Carlo techniques, this paper investigates the properties of several cointegration tests when the marginal process of one of the variables in the cointegrating relationship is stationary with a structural break. The break has little effect on the tests' size. However, tests based on estimated error correction models generally are more powerful than Engle and Granger's two-step procedure employing the Dickey-Fuller unit root test. Discrepancies in power arise when the data generation process does not have a common factor.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1993/440/ifdp440.pdf

1.31 Clements M.P. & David F. Hendry, 1992. "Forecasting in Cointegrated Systems," Journal of Applied Econometrics. Volume (Year): 10 (1995) Issue (Month): 2 (April-June) Pages: 127-46.

We consider the implications for forecast accuracy of imposing unit roots and cointegrating restrictions in linear systems of I (1) variables in levels, differences, and cointegrated combinations. Asymptotic formulae are obtained for multi-step forecast error variances for each representation. Alternative measures of forecast accuracy are discussed. Finite sample behavior in a bivariate model is studied by Monte Carlo using control variables. We also analyze the interaction between unit roots and cointegrating restrictions and intercepts in the DGP. Some of the issues are illustrated with an empirical example of forecasting the demand for M1 in the U.K.

Full text available on-line at:

http://www.jstor.org/pss/2284969

1.32 Luigi Ermini & David F. Hendry, 1991. "Log Income vs. Linear Income: An Application of the Encompassing Principle," Article provided by Department of Economics, University of Oxford in its journal Oxford Bulletin of Economics and Statistics.Volume (Year): 70 (2008), Issue (Month): s1 (December), Pages: 807-827.

An open question in empirical economics is whether models should be estimated by using the actual, or linear, values of economic variables or their logarithms. This paper applies the principle of encompassing to suggest specification and mis-specification tests of log vs. linear individual equations fitted to "I"(1) data, and illustrates the analysis for US quarterly disposable income. The finite-sample properties of the encompassing tests are examined in a Monte Carlo experiment customized to the parameter values found in the empirical analysis.

Full text available on-line at:

http://www3.interscience.wiley.com/journal/121536672/abstract?CRETRY=1&SRETRY=0

1.33 Carlo Favero & David F. Hendry, 1992. "Testing the Lucas critique: A review," Econometric Reviews, Taylor and Francis Journals, vol. 11(3), pages 265-306.

Claims that the parameters of an econometric model are invariant under changes in either policy rules or expectations processes entail super exogeneity and encompassing implications. Super exogeneity is always potentially refutable, and when both implications are involved, the Lucas critique is also refutable. We review the methodological background; the applicability of the Lucas critique; super exogeneity tests; the encompassing implications of feedback and feed forward models; and the role of incomplete information. The approach is applied to money demand in the U.S.A. to examine constancy, exogeneity, and encompassing, and reveals the Lucas critique to be inapplicable to the model under analysis.

Full text available on-line at:

http://www.informaworld.com/smpp/content~db=all?content=10.1080/07474939208800238

1.34 David F. Hendry & Neil R. Ericsson, 1990. "Modeling the demand for narrow money in the United Kingdom and the United States," International Finance Discussion Papers 383, Board of Governors of the Federal Reserve System (U.S.).

Despite the importance of well-specified empirical money-demand functions for inference, forecasting, and policy, problems in modeling have arisen concerning the economic theories of money demand, the data, institutional frameworks, financial innovation, and econometric implementation. By developing constant, data-coherent M1 demand equations for the UK and the US, we investigate these issues and explain such puzzles as "missing money", the great velocity decline, and the recent explosion in M1. The endogeneity of money, the Lucas critique, and the non-invertibility of our M1 models are also discussed.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1990/383/ifdp383.pdf

1.35 Engle Robert F. & David F. Hendry, 1993. "Testing superexogeneity and invariance in regression models," Journal of Econometrics, Elsevier, vol. 56(1-2), pages 119-139, March.

This paper introduces tests of superexogeneity and invariance. Under the null hypothesis the conditional model exhibits parameter constancy, while under the alternative shifts in the process of the independent variables induces shifts in the conditional model. The test is sensitive to particular types of parameter non constancy, especially with changing variances and covariances. We relate the test to rational expectations models and the Lucas critique. An empirical example of money demand finds prices and interest rates superexogenous in a conditional model, but when the inflation specification changes, superexogeneity fails although standard specification tests do not.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-4582FTS-20/2/ecdd40c40c8c756cd58ca1254efc7178

1.36 David F. Hendry & Neil R. Ericsson, 1989. "An econometric analysis of UK money demand in monetary trends in the United States and the united Kingdom by Milton Friedman and Anna J. Schwartz," International Finance Discussion Papers 355, Board of Governors of the Federal Reserve System (U.S.).

This paper evaluates an empirical model of UK money demand developed by Friedman and Schwartz in Monetary Trends... .Testing reveals mis-specification and hence the potential for an improved model. Using recursive procedures on their annual data, we obtain a better-fitting, constant, dynamic error-correction (cointegration) model. Results on exogeneity and encompassing imply that our money-demand model is interpretable as a model of money but not of prices since its constancy holds only conditional on contemporaneous prices.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1989/355/ifdp355.pdf

1.37 Neil R. Ericsson & David F. Hendry, 1989. "Encompassing and rational expectations: how sequential corroboration can imply refutation," International Finance Discussion Papers 354, Board of Governors of the Federal Reserve System (U.S.).

Even though pieces of empirical evidence individually may corroborate an economic theory, their joint existence may refute that same theory. We discuss examples concerning testing for omitted variables, simultaneity, and rational expectations in the context of general-to-simple versus simple-to-general modeling. The proposition in the first sentence strongly favors the building of empirical models which are consistent with all available evidence.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1989/354/ifdp354.pdf

1.38 Julia Campos, Neil R. Ericsson & David F. Hendry, 1987. "An analogue model of phase-averaging procedures," International Finance Discussion Papers 303, Board of Governors of the Federal Reserve System (U.S.).

This paper considers the statistical and econometric effect that fixed n-period phase-averaging has on time series generated by some simple dynamic processes. We focus on the variance and autocorrelation of the data series and of the disturbance term for levels and difference equations involving the phase-average data. Further, we examine the effect of phase-averaging on the erogeneity of variables in those equations and the implications phase-averaging has for conducting statistical inference. ; To illustrate our analytical results, we investigate claims by Friedman and Schwartz in their 1982 book Monetary Trends in the United States and the United Kingdom about what the properties of phase-average data and the relationships between those data ought to be. We present certain features of the observed series on velocity, examine how well our analytical model captures them, and contrast them with Friedman and Schwartz's predictions. While our model is an extremely simplified characterization of the phase-averaging adopted by Friedman and Schwartz, it does offer several insights into the likely consequences of their approach.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1987/303/ifdp303.pdf

1.39 David F. Hendry & Neil R. Ericsson, 1985. "Assertion without empirical basis : an econometric appraisal of monetary trends in ... the United Kingdom, by Milton Friedman and Anna J. Schwartz," International Finance Discussion Papers 270, Board of Governors of the Federal Reserve System (U.S.).

This paper critically re-evaluates some of the fundamental empirical claims about monetary behavior in the United Kingdom made by Milton Friedman and Anna J. Schwartz in their 1982 book Monetary Trends in the United States and the United Kingdom. We focus on six aspects of their analysis: the exogeneity of money; their claims of the constancy and correct specification of their money-demand equation; their interpretation of a dummy variable in that equation as capturing a "shift in liquidity preference" for 1921-55; their treatment of the interdependence of money, income, prices, and interest rates; and their use of phase-average data. They fail to support many of their empirical assertions with valid econometric evidence: in particular, they leave untested many conditions necessary to sustain their inferences. However, those conditions either are in part directly testable from their data or have testable implications: we test many of those hypotheses and reject virtually all of them. We reject basic claims made for their empirical model of money demand, e.g., those of parameter constancy, price homogeneity, and normality of the disturbances. En route, we show that their model of velocity as a constant performs poorly relative to the "will-o'-the-wisp" model of velocity as a random walk. As constructive evidence against their models, we develop a money-demand model superior to either model of velocity, and which has an unexplained residual variance less than one tenth that of their money-demand equation. This paper, however, is not an "anti-monetarist" critique; rather, it is a pro-econometrics tract which highlights the practical dangers of seeking to analyze complex stochastic processes while eschewing modern econometric methods.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1985/270/ifdp270.pdf

1.40 Neil R. Ericsson & David F. Hendry, 1985. "Conditional econometric modeling: an application to new house prices in the United Kingdom," International Finance Discussion Papers 254, Board of Governors of the Federal Reserve System (U.S.).

The statistical formulation of the econometric model is viewed as a sequence of marginalizing and conditioning operations which reduce the parameterization to manageable dimensions. Such operations entail that the "error" is a derived rather than an autonomous process, suggesting designing the model to satisfy data-based and theory criteria. The relevant concepts are explained and applied to data modeling of UK new house prices in the framework of an economic theory-model of house builders. The econometric model is compared with univariate time-series models and tested against a range of alternatives.

Full text available on-line at:

http://www.federalreserve.gov/pubs/ifdp/1985/254/ifdp254.pdf

1.41 David F. Hendry & Mizon Grayham Ernest, 1985. "Procrustean Econometrics: Stretching and Squeezing Data," CEPR Discussion Papers 68, C.E.P.R. Discussion Papers.

Recent concern about the inadequacies of econometric models has led not only to the search for causes, but also to the proposal of constructive remedies for these difficulties. In this paper we analyze the links between econometric modeling methodologies and the performance of econometric models. We comment on a number of the constructive modeling strategies that have been proposed, and emphasize the importance of evaluating models, especially by checking whether they are congruent with the available information. This process of model evaluation is destructive rather than constructive, and the criteria it employs form a set of necessary, not sufficient, conditions for model adequacy.

Full text available on-line at:

http://www.cepr.org/pubs/new-dps/dplist.asp?dpno=68

1.42 Engle Robert F., David F. Hendry & Richard Jean-François, 1983. "Exogeneity," Econometrica, Econometric Society, vol. 51(2), pages 277-304, March.

In spite of the importance of exogeneity in econometric modeling, an unambiguous definition does not seem to have been proposed to date. This lack has not only hindered systematic discussion, it has served to confuse the connections between "causality" and "exogeneity". Moreover, many existing definitions have been formulated in terms of disturbances from relationships which contain unknown parameters, yet whether or not such disturbances satisfy certain orthogonality conditions with other observables may be a matter of construction or may be a testable hypothesis: a clear distinction between these situations is essential. To achieve such an objective, we formulate definitions in terms of the distributions of the observable variables, distinguishing between exogeneity assumptions and causality assumptions, where causality is used in the sense of Granger (1969). Following in particular Koopman's pioneering article (1950), exogeneity will be related to the statistical completeness of a model. In short, a variable will be considered exogenous for a given purpose if a statistical analysis can be conducted conditionally on that variable without loss or relevant sample information.

Full text available on-line at:

http://www.jstor.org/pss/1911990

1.43 David F. Hendry, 1975. "The Limiting Distribution of Inconsistent Instrumental Variables Estimators in a Class of Stationary Stochastic Systems," Cowles Foundation Discussion Papers 399, Cowles Foundation, Yale University.

No abstract available.

Full text available on-line at:

http://cowles.econ.yale.edu/P/cd/d03b/d0399.pdf

1.44 David F. Hendry & Gordon J. Anderson, 1975. "Testing Dynamic Specification in Small Simultaneous Systems: An Application to a Model of Building Society Behavior in the United Kingdom," Cowles Foundation Discussion Papers 398, Cowles Foundation, Yale University.

No abstract available.

Full text available on-line at:

http://cowles.econ.yale.edu/P/cd/d03b/d0398.pdf

1.45 David F. Hendry & Frank Srba, 1975. "A Control Variable Investigation of the Properties of Autoregressive Instrumental Variables Estimators for Dynamic Systems," Cowles Foundation Discussion Papers 400, Cowles Foundation, Yale University.

Full text available on-line at:

http://cowles.econ.yale.edu/P/cd/d04a/d0400.pdf

1.46 Jurgen A. Doornik, David F. Hendry & Neil Shephard, 2001. "Computationally-intensive Econometrics using a Distributed Matrix-programming Language," Economics Papers 2001-W22, Economics Group, Nuffield College, University of Oxford.

This paper reviews the need for powerful facilities in econometrics, focusing on concrete problems which arise in financial economics and in macroeconomics. We argue that the profession is being held back by the lack of easy to use generic software which is able to exploit the availability of cheap clusters of distributed computers. Our response is to extend, in a number of directions, the well known matrix-programming interpreted language Ox developed by the first author. We note three possible levels of extensions: (i) Ox with parallelization explicit in the Ox code; (ii) Ox with a parallelized run-time library; (iii) Ox with a parallelized interpreter. This paper studies and implements the first case, emphasizing the need for deterministic computing in science. We give examples in the context of financial economics and time-series modeling.

Full text available on-line at:

http://www.nuff.ox.ac.uk/economics/papers/2001/w22/hpc20013.pdf

1.47 Neil R. Ericsson, David F. Hendry & Kevin M. Prestiwch. "The UK Demand for Broad Money over the Long run," Economics Papers W29, Economics Group, Nuffield College, University of Oxford.

No abstract available.

Full text available on-line at:

http://www.nuff.ox.ac.uk/economics/papers/1996/w29/fssje1.ps

1.48 Beyer Andreas, Doornik Jurgen A. & David F. Hendry. 2001. "Beyer-Doornik-Hendry," Instructional Stata datasets for econometrics bdh, Boston College Department of Economics.

Data from Constructing Historical Euro-Zone Data, Economic Journal, 2001, 111:F102-F121. Quarterly, 1979q1 to 1999q4.

Full text available on-line at:

http://fmwww.bc.edu/ec-p/data/macro/BDH_data.pdf

1.49 Michael Clements & David F. Hendry, 2008. "Economic Forecasting in a Changing World," Capitalism and Society, Berkeley Electronic Press, vol. 3(2), pages 1.

This article explains the basis for a theory of economic forecasting developed over the past decade by the authors. The research has resulted in numerous articles in academic journals, two monographs, Forecasting Economic Time Series, 1998, Cambridge University Press, and Forecasting Non stationary Economic Time Series, 1999, MIT Press, and three edited volumes, Understanding Economic Forecasts, 2001, MIT Press, A Companion to Economic Forecasting, 2002, Blackwells, and the Oxford Bulletin of Economics and Statistics, 2005. The aim here is to provide an accessible, non-technical, account of the main ideas. The interested reader is referred to the monographs for derivations, simulation evidence, and further empirical illustrations, which in turn reference the original articles and related material, and provide bibliographic perspective.

Full text available on-line at:

http://www.bepress.com/cas/vol3/iss2/art1/

1.50 Carlos Santos, David F. Hendry & Soren Johansen, 2008. "Automatic selection of indicators in a fully saturated regression," Computational Statistics, Springer, vol. 23(2), pages 317-335, April.

We consider selecting a regression model, using a variant of the general-to-specific algorithm in PcGets, when there are more variables than observations. We look at the special case where the variables are single impulse dummies, one defined for each observation. We show that this setting is unproblematic if tackled appropriately, and obtain the asymptotic distribution of the mean and variance in a location-scale model, under the null that no impulses matter. Monte Carlo simulations confirm the null distributions and suggest extensions to highly non-normal cases.

Full text available on-line at:

http://www.springerlink.com/content/42m385vrk201k777/

1.51 Aris Spanos, David F. Hendry & J. James Reade, 2008. "Linear vs. Log-linear Unit-Root Specification: An Application of Mis-specification Encompassing," Oxford Bulletin of Economics and Statistics, Department of Economics, University of Oxford, vol. 70(s1), pages 829-847, December.

The objective of this paper is to apply the mis-specification (M-S) encompassing perspective to the problem of choosing between "linear" and "log-linear" unit-root models. A simple M-S encompassing test, based on an auxiliary regression stemming from the conditional second moment, is proposed and its empirical size and power are investigated using Monte Carlo simulations. It is shown that by focusing on the conditional process the sampling distributions of the relevant statistics are well behaved under both the null and alternative hypotheses. The proposed M-S encompassing test is illustrated using US total disposable income quarterly data.

Full text available on-line at:

http://www3.interscience.wiley.com/journal/121536669/abstract

1.52 David F. Hendry, Massimiliano Marcellino & Chiara Monfardini, 2008. "Foreword," Oxford Bulletin of Economics and Statistics, Department of Economics, University of Oxford, vol. 70(s1), pages 711-714, December.

No abstract available.

Full text available on-line at:

http://www3.interscience.wiley.com/journal/121536667/abstract

1.53 David F. Hendry, Massimiliano Marcellino & Grayham E. Mizon, 2008. "Guest Editors' Introduction to Special Issue on Encompassing," Oxford Bulletin of Economics and Statistics, Department of Economics, University of Oxford, vol. 70(s1), pages 715-719, December.

No abstract available.

Full text available on-line at:

http://www3.interscience.wiley.com/journal/121536665/abstract

1.54 Hendry David F. & Reade J. James, 2008. "Elusive return predictability: Discussion," International Journal of Forecasting, Elsevier, vol. 24(1), pages 22-28.

No abstract available.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6V92-4R718BX-1/1/1db96bbfe97171f583fc379be0139ebf

1.55 David F. Hendry, 2006. "Robustifying forecasts from equilibrium-correction systems," Journal of Econometrics, Elsevier, vol. 135(1-2), pages 399-426.

Cointegration analysis has led to equilibrium-correction econometric systems being ubiquitous. But in a non-stationary world subject to structural breaks, where model and mechanism differ, equilibrium-correction models are a risky device from which to forecast. Equilibrium shifts entail systematic forecast failure, as forecasts will tend to move in the opposite direction to data. We explain the empirical success of second-differenced devices and of model transformations based on additional differencing as

reducing forecast-error biases, at some cost in increased forecast-error variances. The analysis is illustrated by an empirical application to narrow money holdings in the UK.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-4H2FY99-1/2/ec5736e265468dd7ba8e71060406c6d7

1.56 David F. Hendry, 2006. "A comment on "Specification searches in spatial econometrics: The relevance of Hendry's methodology"," Regional Science and Urban Economics, Elsevier, vol. 36(2), pages 309-312, March.

Florax et al. [Florax, R.J.G.M., Folmer, H., Rey, S.J., 2003. Specification searches in spatial econometrics: the relevance of Hendry's methodology. Regional Science and Urban Economics, 33, 557–579] undertook a simulation study designed to assess the properties of various selection strategies applied to a spatial modeling problem. Unfortunately, a serious flaw in their experimental design vitiates their main conclusions. A proposal for how to rectify the problem suggests that the opposite conclusion might well result, particularly for more interesting settings than the simple one they considered.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6V89-4HPKBM6-1/2/228176028cc73fc96cda5d0df173ffc4

1.57 Carlos Santos & David F. Hendry, 2006. "Saturation in Autoregressive Models," Notas Económicas, Faculdade de Economia, Universidade de Coimbra, issue 24, pages 8-19, December.

In this paper, we extend the impulse saturation algorithm to a class of dynamic models. We show that the procedure is still correctly sized for stationary AR (1) processes, independently of the number of splits used for sample partitions. We derive theoretical power when there is an additive outlier in the data, and present simulation evidence showing good empirical rejection frequencies against such an alternative. Extensive Monte Carlo evidence is presented to document that the procedure has good power against a level shift in the last rT% of the sample observations. This result does not depend on the level of serial correlation of the data and does not require the use of

a (mis-specified) location-scale model, thus opening the door to an automatic class of break tests that could outperform those of the Bai-Perron type.

Full text available on-line at:

http://notas-economicas.fe.uc.pt/texts/ne024n0177.pdf

1.58 Michael P. Clements & David F. Hendry, 2005. "Guest Editors' Introduction: Information in Economic Forecasting," Oxford Bulletin of Economics and Statistics, Department of Economics, University of Oxford, vol. 67(s1), pages 713-753, December.

No abstract available.

Full text available on-line at:

http://www3.interscience.wiley.com/journal/120827864/abstract

1.59 Michael P. Clements & David F. Hendry, 2005. "Evaluating a Model by Forecast Performance," Oxford Bulletin of Economics and Statistics, Department of Economics, University of Oxford, vol. 67(s1), pages 931-956, December.

Although out-of-sample forecast performance is often deemed to be the 'gold standard' of evaluation, it is not in fact a good yardstick for evaluating models in general. The arguments are illustrated with reference to a recent paper by Carruth, Hooker and Oswald ["Review of Economics and Statistics" (1998), Vol. 80, pp. 621-628], who suggest that the good dynamic forecasts of their model support the efficiency-wage theory on which it is based.

Full text available on-line at:

http://www3.interscience.wiley.com/journal/120827871/abstract

1.60 Granger Clive W.J. & David F. Hendry, 2005. "A Dialogue Concerning A New Instrument for Econometric Modeling," Econometric Theory, Cambridge University Press, vol. 21(01), pages 278-297, February.

This paper presents a set of questions prepared by Clive Granger with responses by David F. Hendry on the use of PcGets (see Hendry and Krolzig, 2001) in data modeling and as a new research tool. PcGets is an Ox package (see Doornik, 2001)

implementing automatic general-to-specific (Gets) modeling for linear regression models based on the theory of reduction, as in Hendry (1995, Ch. 9).

Full text available on-line at:

http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=281027

1.61 David F. Hendry & Hans-Martin Krolzig, 2004. "We Ran One Regression," Oxford Bulletin of Economics and Statistics, Department of Economics, University of Oxford, vol. 66(5), pages 799-810, December.

The controversy over the selection of 'growth regressions' was precipitated by some remarkably numerous 'estimation' strategies, including two million regressions by Sala-i-Martin ["American Economic Review" (1997b) Vol. 87, pp. 178-183]. Only one regression is really needed, namely the general unrestricted model, appropriately reduced to a parsimonious encompassing, congruent representation. We corroborate the findings of Hoover and Perez ["Oxford Bulletin of Economics and Statistics" (2004) Vol. 66], who also adopt an automatic general-to-simple approach, despite the complications of data imputation. Such an outcome was also achieved in just one run of "PcGets", within a few minutes of receiving the data set in Fernández, Ley and Steel ["Journal of Applied Econometrics" (2001) Vol. 16, pp. 563-576] from Professor Ley.

Full text available on-line at:

http://www3.interscience.wiley.com/cgi-bin/home

1.62 David F. Hendry, 2003. "J. Denis Sargan and the Origins of Lse Econometric Methodology," Econometric Theory, Cambridge University Press, vol. 19(03), pages 457-480, June.

I review the part played by John Denis Sargan in the formation of the LSE approach to dynamic econometric modeling. Despite his unassuming demeanor and his location at LSE which had earlier dismissed a substantive role for econometric evidence Sargan nevertheless radically altered the econometric approach of a generation, establishing a powerful approach to empirical modeling of economic time series. His main contributions to econometric methodology, and the subsequent research, are discussed as a complement to the other papers in this memorial volume. Financial

support from the U.K. Economic and Social Research Council under grant L138251009 is gratefully acknowledged. I am indebted to Alok Bhargava, Julia Campos, Meghnad Desai, Neil Ericsson, Toni Espasa, Grayham Mizon, Peter Phillips, Timo Ter svirta, and Ken Wallis for helpful comments and to Peter Phillips for the invitation to contribute this paper to Econometric Theory.

Full text available on-line at:

http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=146097

1.63 Niels Haldrup, David F. Hendry & Herman K. Dijk, 2003. "Guest Editors' Introduction: Model Selection and Evaluation in Econometrics," Oxford Bulletin of Economics and Statistics, Department of Economics, University of Oxford, vol. 65(s1), pages 681-688, December.

No abstract available.

Full text available on-line at:

http://www3.interscience.wiley.com/journal/118840026/abstract

1.64 Julia Campos, David F. Hendry & Hans-Martin Krolzig, 2003. "Consistent Model Selection by an Automatic "Gets" Approach," Oxford Bulletin of Economics and Statistics, Department of Economics, University of Oxford, vol. 65(s1), pages 803-819, December.

We establish the consistency of the selection procedures embodied in "PcGets", and compare their performance with other model selection criteria in linear regressions. The significance levels embedded in the "PcGets" Liberal and Conservative algorithms coincide in very large samples with those implicit in the Hannan-Quinn (HQ) and Schwarz information criteria (SIC), respectively. Thus, both "PcGets" rules are consistent under the same conditions as HQ and SIC. However, "PcGets" has a rather different finite-sample behavior. Pre-selecting to remove many of the candidate variables is confirmed as enhancing the performance of SIC.

Full text available on-line at:

http://www3.interscience.wiley.com/journal/120844049/abstract

1.65 Michael P. Clements & David F. Hendry, 2002. "Modelling methodology and forecast failure," Econometrics Journal, Royal Economic Society, vol. 5(2), pages 319-344, 06.

We analyze by simulation the impact of model-selection strategies (sometimes called pre-testing) on forecast performance in both constant-and non-constant-parameter processes. Restricted, unrestricted and selected models are compared when either of the first two might generate the data. We find little evidence that strategies such as general-to-specific induce significant over-fitting, or thereby cause forecast-failure rejection rates to greatly exceed nominal sizes. Parameter non-constancies put a premium on correct specification, but in general, model-selection effects appear to be relatively small, and progressive research is able to detect the mis-specifications.

Full text available on-line at:

http://www3.interscience.wiley.com/cgi-bin/home

1.66 David F. Hendry, 2002. "Applied Econometrics without Sinning," Journal of Economic Surveys, Blackwell Publishing, vol. 16(4), pages 591-604, September.

No abstract available.

Full text available on-line at:

http://www3.interscience.wiley.com/cgi-bin/home

1.67 David F. Hendry & M. Hashem Pesaran, 2001. "A special issue in memory of John Denis Sargan: studies in empirical macroeconometrics," Journal of Applied Econometrics, John Wiley & Sons, Ltd., vol. 16(3), pages 197-202.

No abstract available.

Full text available on-line at:

http://qed.econ.queensu.ca/jae/2001-v16.3/

1.68 David F. Hendry, 2001. "Achievements and challenges in econometric methodology," Journal of Econometrics, Elsevier, vol. 100(1), pages 7-10, January.

Disputes about econometric methodology have abounded in econometrics, yet their attempted resolution has attracted only a small proportion of research effort. Recently, computer-automated general-to-specific reductions have been shown to perform well in Monte Carlo experiments, recovering the DGP specification from a much larger general model with size and power close to commencing from the DGP itself. Thus, future developments appear promising, with many ideas awaiting implementation and both theoretical and simulation evaluation.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-41WSBV9-3/2/6bdbf5347949e25b2b33d5ea5acca08f

1.69 Hans-Martin Krolzig, 2000. "Computer Automation of General-to-Specific Model Selection Procedures," Econometric Society World Congress 2000 Contributed Papers 0411, Econometric Society.

That econometric methodology remains in dispute partly reflects the lack of clear evidence on alternative approaches. This paper reconsiders econometric model selection from a computer-automation perspective, focusing on general-to-specific reduction approaches, as embodied in the program PcGets (general-to-specific). Starting from a general linear, dynamic statistical model, which captures the essential data characteristics, standard testing procedures are applied to eliminate statistically-insignificant variables, using diagnostic tests to check the validity of the reductions, ensuring a congruent final model. As the joint issue of variable selection and diagnostic testing eludes most attempts at theoretical analysis, a simulation-based analysis of modeling strategies is presented. The results of the Monte Carlo experiments cohere with the established theory: PcGets recovers the DGP specification with remarkable accuracy. Empirical size and power of PcGets are close to what one would expect if the DGP were known.

Full text available on-line at:

http://fmwww.bc.edu/RePEc/es2000/0411.pdf

1.70 David F. Hendry, 2001. "Modelling UK inflation, 1875-1991," Journal of Applied Econometrics, John Wiley & Sons, Ltd., vol. 16(3), pages 255-275.

UK inflation has varied greatly in response to many economic policy and exchange-rate regime shifts, two world wars and two oil crises, as well as legislative and technological changes. Inflation is modeled as responding to excess demands from all sectors of the economy: goods and services, factors of production, money, financial assets, foreign exchange, and government deficits. Equilibrium-correction terms are developed for each of these over the sample. Indicator variables and commodity prices capture turbulent years. Variables representative of most theories of inflation matter empirically, yielding an eclectic model inconsistent with any 'single-cause' explanation.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.71 Andreas Beyer, Jurgen A. Doornik & David F. Hendry, 2000. "Reconstructing Aggregate Euro-zone Data," Journal of Common Market Studies, Blackwell Publishing, vol. 38(4), pages 613-624, November.

Reconstructing historical euro-zone data by aggregation across individual countries is problematic because of past exchange rate changes. The approach here avoids such distortions, yet aggregates exactly when exchange rates are fixed. This is achieved by aggregating weighted within-country growth rates to obtain euro-zone growth rates, then cumulating this euro-zone growth rate to obtain aggregate levels. The aggregate implicit deflator then coincides with the implicit deflator of the aggregate nominal and real data. Sub-aggregates also aggregate correctly, both regionally and temporally, as well as, e.g., monetary sub-aggregates. The resulting euro-zone data over the previous two decades are compared with other approaches.

Full text available on-line at:

http://www3.interscience.wiley.com/journal/119035742/abstract

1.72 David F. Hendry, 2000. "On detectable and non-detectable structural change," Structural Change and Economic Dynamics, Elsevier, vol. 11(1-2), pages 45-65, July.

A range of parameter changes in I (1) cointegrated time series are not reflected in econometric models thereof, in that many shifts are not easily detected by conventional tests. The breaks in question are changes that leave the unconditional expectations of the I (0) components unaltered. Thus, dynamics, adjustment speeds etc. may alter without detection. However, shifts in long-run means are generally noticeable. Using the VECM model class, the paper discusses such results, explains why they occur, and uses Monte Carlo experiments to illustrate the contrasting ease of detection of 'deterministic' and 'stochastic' shifts.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VFN-40T9HXR-5/2/29c04fc289225e278ae27d4ac0de6ac8

1.73 Michael P. Clements & David F. Hendry, 1999. "On winning forecasting competitions in economics," Spanish Economic Review, Springer, vol. 1(2), pages 123-160.

To explain which methods might win forecasting competitions on economic time series, we consider forecasting in an evolving economy subject to structural breaks, using mis-specified, data-based models. `Causal' models need not win when facing deterministic shifts, a primary factor underlying systematic forecast failure. We derive conditional forecast biases and unconditional (asymptotic) variances to show that when the forecast evaluation sample includes sub-periods following breaks, non-causal models will outperform at short horizons. This suggests using techniques which avoid systematic forecasting errors, including improved intercept corrections. An application to a small monetary model of the UK illustrates the theory.

Full text available on-line at:

http://www.springerlink.com/content/103083/

1.74 Clements Michael P. & David F. Hendry, 1998. "Forecasting economic processes," International Journal of Forecasting, Elsevier, vol. 14(1), pages 111-131, March.

When the assumption of constant parameters fails, the in-sample fit of a model may be a poor guide to ex-ante forecast performance. We expound a number of models, methods, and procedures that illustrate the impacts of structural breaks on forecast accuracy, and evaluate ways of improving forecast performance. We argue that a theory of economic forecasting which allows for model mis-specification and structural breaks is feasible, and may provide a useful basis for interpreting and circumventing systematic forecast failure in macroeconomics. The empirical time series of consumers' expenditure, and Monte Carlo simulations, illustrate the analysis.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6V92-3T82TC6-B/2/1093e40a7e93ea665fba2f473dc9b5e6

1.75 David F. Hendry, Kevin M. Prestwich & Neil R. Ericsson, 1998. "Friedman and Schwartz (1982) revisited: Assessing annual and phase-average models of money demand in the United Kingdom," Empirical Economics, Springer, vol. 23(3), pages 401-415.

Several studies have developed empirical models of U.K. money demand using the century of annual and phase-average data in Friedman and Schwartz (1982). The current paper evaluates key models from those studies, employing tests of constancy and encompassing. The evidence strongly favors an annual model from Ericsson, Hendry, and Prestwich (1998a), whereas models based on the phase-average data fare poorly.

Full text available on-line at:

http://www.springerlink.com/content/102505/

1.76 Doornik Jurgen A., David F. Hendry & Nielsen Bent, 1998. “Inference in Cointegrating Models: UK M1 Revisited," Journal of Economic Surveys, Blackwell Publishing, vol. 12(5), pages 533-72, December.

The paper addresses the practical determination of cointegration rank. This is difficult for many reasons: deterministic terms play a crucial role in limiting distributions, and

systems may not be formulated to ensure similarity to nuisance parameters; finite-sample critical values may differ from asymptotic equivalents; dummy variables alter critical values, often greatly; multiple cointegration vectors must be identified to allow inference; the data may be 1(2) rather than 1(1), altering distributions; and conditioning must be done with care. These issues are illustrated by an empirical application of multivariate cointegration analysis to a small model of narrow money, prices, output and interest rates in the UK.

Full text available on-line at:

http://www3.interscience.wiley.com/cgi-bin/home

1.77 Grayham E. Mizon & David F. Hendry, 1998. "Exogeneity, causality, and co-breaking in economic policy analysis of a small econometric model of money in the UK," Empirical Economics, Springer, vol. 23(3), pages 267-294.

Since the objective of economic policy is to change target variables in the DGP, when economic policy analysis uses an econometric model, it is important that the model delivers reliable inferences about policy responses in the DGP. This requires that the model be congruent and encompassing, and hence exogeneity, causality, cointegration, co-breaking, and invariance all play major roles. We discuss these roles in linear cointegrated VARs, prior to illustrating their importance in a bivariate model of money and interest rates in the UK over the last century.

Full text available on-line at:

http://www.springerlink.com/content/102505/

1.78 David F. Hendry & Doornik Jurgen A., 1997. "The Implications for Econometric Modelling of Forecast Failure," Scottish Journal of Political Economy, Scottish Economic Society, vol. 44(4), pages 437-61, September.

To reconcile forecast failure with building congruent empirical models, the authors analyze the sources of misprediction. This reveals that an ex ante forecast failure is purely a function of forecast-period events, not determinable from in-sample information. The primary causes are unmodeled shifts in deterministic factors, rather than model misspecification, collinearity, or a lack of parsimony. The authors examine the effects of deterministic breaks on equilibrium-correction mechanisms

and consider the role of causal variables. Throughout, Monte Carlo simulation and empirical models illustrate the analysis and support a progressive research strategy based on learning from past failures.

Full text available on-line at:

http://www3.interscience.wiley.com/cgi-bin/home

1.79 Desai Meghnad J., David F. Hendry & Mizon Grayham E., 1997. "John Denis Sargan," Economic Journal, Royal Economic Society, vol. 107(443), pages 1121-25, July.

No abstract available.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.80 Clements Michael P. & David F. Hendry, 1997. "An empirical study of seasonal unit roots in forecasting," International Journal of Forecasting, Elsevier, vol. 13(3), pages 341-355, September.

We assess the usefulness of pre-testing for seasonal roots, based on the HEGY approach, for out-of-sample forecasting. It is shown that if there are shifts in the deterministic seasonal components then the imposition of unit roots can partially robustify sequences of rolling forecasts, yielding improved forecast accuracy. The analysis is illustrated with two empirical examples where more accurate forecasts are obtained by imposing more roots than is warranted by HEGY. The issue of assessing forecast accuracy when predictions of any one of a number of linear transformations may be of interest is also addressed.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6V92-3SX1KJD-5/2/7a3960cf0cf202e4bebb43875642ca33

1.81 David F. Hendry, 1997. "On congruent econometric relations : A comment," Carnegie-Rochester Conference Series on Public Policy, Elsevier, vol. 47(1), pages 163-190, December.

No abstract available.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6V8D-3SX8BK6-8/2/848f3140410f74b430ece628dc9f8741

1.82 David F. Hendry, 1997. "The Econometrics of Macroeconomic Forecasting," Economic Journal, Royal Economic Society, vol. 107(444), pages 1330-57, September.

When an econometric model coincides with the mechanism generating the data in an unchanging world, the theory of economic forecasting is reasonably well developed. However, less is known about forecasting when model and mechanism differ in a non stationary and changing world. This paper addresses the basic concepts; the invariance of forecast accuracy measures to isomorphic model representations; the roles of causal information, parsimony, and collinearity; a reformulated taxonomy of forecast errors; differencing and intercept corrections to robustify forecasts against biases due to shifts in deterministic factors; the removal of structural breaks by co breaking; and forecasting using leading indicators.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.83 Florens Jean-Pierre, David F. Hendry & Richard Jean-François, 1996. "Encompassing and Specificity," Econometric Theory, Cambridge University Press, vol. 12(04), pages 620-656, October.

A model M is said to encompass another model N if the former can explain the results obtained by the latter. In this paper, we propose a general notion of encompassing that covers both classical and Bayesian viewpoints and essentially represents a concept of sufficiency among models. We introduce the parent notion of specificity that aims at measuring lack of encompassing. Tests for encompassing are discussed and the test statistics are compared to Bayesian posterior odds. Operational approximations are offered to cover situations where exact solutions cannot be obtained.

Full text available on-line at:

http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=2935848

1.84 Clements Michael P. & David F. Hendry, 1996. "Intercept Corrections and Structural Change," Journal of Applied Econometrics, John Wiley & Sons, Ltd., vol. 11(5), pages 475-94, Sept.-Oct.

Analyses of forecasting that assume a constant, time-invariant data generating process (DGP), and so implicitly rule out structural change or regime shifts in the economy, ignore an aspect of the real world responsible for some of the more dramatic historical episodes of predictive failure. Some models may offer greater protection against unforeseen structural breaks than others, and various tricks may be employed to robustify forecasts to change. We show that in certain states of nature, vector autoregressions in the differences of the variables (in the spirit of Box-Jenkins time-series-modeling), can outperform vector 'equilibrium-correction' mechanisms. However, appropriate intercept corrections can enhance the performance of the latter, albeit that reductions in forecast bias may only be achieved at the cost of inflated forecast error variances.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.85 Clements Michael P. & David F. Hendry, 1995. "Macro-economic Forecasting and Modelling," Economic Journal, Royal Economic Society, vol. 105(431), pages 1001-13, July.

No abstract available.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.86 David F. Hendry, 1995. "Econometrics and Business Cycle Empirics," Economic Journal, Royal Economic Society, vol. 105(433), pages 1622-36, November.

No abstract available.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.87 Govaerts Bernadette, David F. Hendry & Richard Jean-François, 1994. "Encompassing in stationary linear dynamic models," Journal of Econometrics, Elsevier, vol. 63(1), pages 245-270, July.

A model M_1 encompasses a rival model M_2 if M_1 can explain M_2's results. A Wald Encompassing Test (WET) checks if a statistic of interest to M_2 coincides with an estimator of its predicted value under M_1. We propose techniques for evaluating WETs in stationary, linear, dynamic, single equations with weakly exogenous regressors, extending results for strong exogeneity. Dynamics can constrain M_1's predictions of M_2's findings, so encompassing tests can differ from existing tests as examples illustrate. Their asymptotic power functions are compared with the outcomes in a small Monte Carlo. The results support the use of parsimonious encompassing tests.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-4582GY2-29/2/7d6a5109a351b3cc78b21b2446175d74

1.88 David F. Hendry & Morgan Mary S., 1994. "Professor H.O.A. Wold: 1908? 1992," Econometric Theory, Cambridge University Press, vol. 10(02), pages 419-433, June.

No abstract available.

Full text available on-line at:

http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=3174784

1.89 David F. Hendry & Michael P. Clements, 1994. "Can Econometrics Improve Economic Forecasting?," Swiss Journal of Economics and Statistics (SJES), Swiss Society of Economics and Statistics (SSES), vol. 130(III), pages 267-298, September.

After reviewing the history of analyses of economic forecasting, the role of econometrics in improving economic forecasting is considered, building on CLEMENTS and HENDRY (1994a). The basis of the analysis is a world where model selection is difficult, no model coincides with the economic mechanism, and that mechanism is both non-stationary and evolves over time. On the constructive side, econometric analysis suggests ways of reducing each of the resulting five sources of forecast uncertainty (parameter non-constancy; estimation uncertainty; variable uncertainty; innovation uncertainty; and model mis-specification). On the critical side, the lack of invariance of forecast evaluation procedures to the representation of the model may camouflage inadequate models. We show that forecasts generated from vector autoregressions in differences may be more robust to certain forms of structural change over the forecast period, and that a similar result can be achieved by suitable forms of intercept corrections in vector error-correction mechanisms.

Full text available on-line at:

http://www.sjes.ch/papers/1994-III-2.pdf

1.90 David F. Hendry & Starr Ross M., 1993. "The Demand for M1 in the USA: A Reply," Economic Journal, Royal Economic Society, vol. 103(420), pages 1158-69, September.

Using general to simple methods, J. M. Boughton (1993) develops an econometric model that fits almost as well as Y. Baba, D. F. Hendry, and R. M. Starr (BHS) (1992) but differs in economic implications and dynamic adjustments. He claims the new model is constant, is not encompassed by BHS, but does not encompass BHS. He concludes that the new variables in BHS do not matter for fit or constancy. The authors replicate Boughton's findings but their simplification encompassing test confirms the importance of the novel variables in BHS and shows that BHS encompasses his model. An explanation is offered for its constancy when previous studies suffered predictive failure.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.91 David F. Hendry, 1992. "An econometric analysis of TV advertising expenditure in the United Kingdom," Journal of Policy Modeling, Elsevier, vol. 14(3), pages 281-311, June.

Previous econometric studies of the supply of and demand for TV advertising time in the United Kingdom using annual data found negative price elasticities of demand of less than unity in absolute value. Here, a dynamic, constant-parameter, econometric system for both the real price of TV advertising time and the number of commercial home minutes broadcast is estimated from quarterly data and finds a long-run price elasticity of about -2. The model explains the previous findings as due to the high degree of contemporaneous interdependence between price and quantity on annual data, which arises from within-year feedbacks.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6V82-45N4MG8-V/2/7653fa0b1c58b9cd25c93741b94658e5

1.92 Baba Yoshihisa, David F. Hendry & Starr Ross M., 1992. "The Demand for M1 in the U.S.A., 1960-1988," Review of Economic Studies, Blackwell Publishing, vol. 59(1), pages 25-61, January.

Estimated U.S. M1 demand functions appear unstable, regularly "breaking down," over 1960-88 (e.g., missing money, great velocity decline, M1-explosion). The authors propose a money demand function whose arguments include inflation, real income, long-term bond yield and risk, T-bill interest rates, and learning curve weighted yields on newly introduced instruments in M1 and non transactions M2. The model is estimated in dynamic error-correction form; it is constant and, with an equation standard error of 0.4 percent, variance-dominates most previous models. Estimating alternative specifications explains earlier "breakdowns," showing the model's distinctive features to be important in accounting for the data.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.93 David F. Hendry & Ericsson Neil R., 1991. "An Econometric Analysis of U.K. Money Demand in 'Monetary Trends in the United States and the United Kingdom' by Milton Friedman and Anna Schwartz," American Economic Review, American Economic Association, vol. 81(1), pages 8-38, March.

This paper evaluates an empirical model of U.K. money demand developed by Milton Friedman and Anna J. Schwartz in Monetary Trends in the United States and the United Kingdom. Testing reveals misspecification and, hence, the potential for an improved model. Using recursive procedures on their annual data, the authors obtain a better-fitting, constant, dynamic error-correction (cointegration) model. Results on exogeneity and encompassing imply that the authors' money-demand model is interpretable as a model of money, but not of prices, since its constancy holds only conditionally on contemporaneous prices.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.94 David F. Hendry, 1991. "The response of consumption to income: A cross-country investigation: by John Y. Campbell and N. Gregory Mankiw," European Economic Review, Elsevier, vol. 35(4), pages 764-767, May.

No abstract available.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6V64-45F6374-76/2/5dd45215b937831aa8ee065a46799ffe

1.95 David F. Hendry, Learmer Edward E. & Poirier Dale J., 1990. "A Conversation on Econometric Methodology," Econometric Theory, Cambridge University Press, vol. 6(02), pages 171-261, June.

No abstract available.

Full text available on-line at:

http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=2908140

1.96 David F. Hendry & Morgan Mary S., 1989. "A Re-analysis of Confluence Analysis," Oxford Economic Papers, Oxford University Press, vol. 41(1), pages 35-52, January.

No abstract available.

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http://www.jstor.org/page/info/about/index.jsp

1.97 David F. Hendry, 1989. "Comment," Econometric Reviews, Taylor and Francis Journals, vol. 8(1), pages 111-121.

No abstract available.

Full text available on-line at:

http://www.informaworld.com/smpp/content~db=all?content=10.1080/07474938908800157

1.98 David F. Hendry & Neale Adrian J, 1988. "Interpreting Long-run Equilibrium Solutions in Conventional Macro Models: A Comment," Economic Journal, Royal Economic Society, vol. 98(392), pages 808-17, September.

C. M. Kelly (1985) claims that long-run solutions from econometric models may be seriously misleading when expectations variables are erroneously replaced by observed outcomes. It is shown that his results derive uniquely from an invalid exogeneity assumption. All inferences are therefore potentially invalid, illustrated by a case where the long-run is correct while the short-run is biased. Using an encompassing framework, error-variance rankings and related tests distinguishing expectational from conditional models are derived for stationary cases. For non stationary integrated series, the long-run will be correctly estimated when the data are cointegrated, whereas the short-run remains biased.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.99 David F. Hendry, Neale Adrian J. & Srba Frank, 1988. "Econometric analysis of small linear systems using PC-FIML," Journal of Econometrics, Elsevier, vol. 38(1-2), pages 203-226.

The framework for econometric analysis of small linear dynamic systems embodied in the micro-computer program PC-FIML is described in terms of ten themes which provide a structured approach to teaching, program operation, and empirical modeling. The themes are illustrated by a small consumption-income model and comprise: the concept of a system; the status of its variables; the formulation of the lag structure; system estimation and evaluation using recursive procedures; the econometric model of that system; its identification conditions; evaluation by system encompassing; estimation via the estimator generating equation; numerical optimization; and model evaluation from derived statistics and ancillary computations.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-45828ST-38/2/d684860d60a4421edca486a7218140e0

1.100 David F. Hendry, 1988. "The Encompassing Implications of Feedback versus Feedforward Mechanisms in Econometrics," Oxford Economic Papers, Oxford University Press, vol. 40(1), pages 132-49, March.

If expectations are an important ingredient of economic decisions, when expectations alter feedback, models should manifest parameter change. This aspect of the "Lucas critique" therefore has implications for feedforward models when expectations processes change but conditional models do not. Both invariance and encompassing attributes of each type of model are investigated to demonstrate that the Lucas critique is refutable, as well as confirmable, even with incomplete information about how agents form expectations. The approach is applied to the transactions demand for money in the United Kingdom and corroborates earlier work by the author by refuting a claimed expectations interpretation.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.101 David F. Hendry, 1986. "An excursion into conditional varianceland," Econometric Reviews, Taylor and Francis Journals, vol. 5(1), pages 63-69.

No abstract available.

Full text available on-line at:

http://www.informaworld.com/smpp/content~db=all?content=10.1080/07474938608800098

1.102 Chong Yock Y. & David F. Hendry, 1986. "Econometric Evaluation of Linear Macro-Economic Models," Review of Economic Studies, Blackwell Publishing, vol. 53(4), pages 671-90, August.

No abstract available.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.103 Robert F. Engle, David F. Hendry & David Trumble, 1985. "Small-Sample Properties of ARCH Estimators and Tests," Canadian Journal of Economics, Canadian Economics Association, vol. 18(1), pages 66-93, February.

No abstract available.

Full text available on-line at:

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1.104 David F. Hendry. & Richard Jean-François, 1982. "On the formulation of empirical models in dynamic econometrics," Journal of Econometrics, Elsevier, vol. 20(1), pages 3-33, October.

Available information is considered as partitioned into the sets: past, present, and future observations, other data of competing models and theory knowledge. In each case, specific concepts are relevant to empirical model formulation (e.g. innovations for past data, exogeneity for present, encompassing for contending models, etc.) and various properties of such concepts are established (viz. encompassing is transitive and asymmetric). Relationships between concepts are developed (e.g. encompassing entails variance-dominance in linear models), and related to the notion of a

progressive research strategy. An empirical model illustrates the various criteria. Model selection by dynamic simulation tracking performance is critically evaluated.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-45H2THD-34/2/61034321e663140e8f695a104fcceb4f

1.105 David F. Hendry, 1982. "A reply to Professors Maasoumi and Phillips," Journal of Econometrics, Elsevier, vol. 19(2-3), pages 203-213, August.

No abstract available.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-4582368-9/2/ef59fade5aab2aab83e075a775cc9466

1.106 David F. Hendry, 1982. "Comment whither disequilibrium econometrics?," Econometric Reviews, Taylor and Francis Journals, vol. 1(1), pages 65-70.

Full text available on-line at:

http://www.informaworld.com/smpp/content~db=all?content=10.1080/07311768208800002

1.107 David F. Hendry. & Richard Jean-François, 1981. "Model formulation to simplify selection when specification is uncertain," Journal of Econometrics, Elsevier, vol. 16(1), pages 159-159, May.

Although complicated estimators are now routinely computed, rather little empirical research in econometrics seems to be conducted using fully, and correctly, pre-specified models. When data based selection is required from a 'small' sample for a range of alternative potential regressors, lag patterns, functional forms, error processes and so on, computational simplicity and model comprehensibility resume positions of importance and require emphasis even at the cost of conceding other desirable attributes: compromises between alternative properties are almost inevitable and much of the 'art' of empirical modeling lies in choosing an appropriate balance. To facilitate selection under uncertain specification, the presentation considered ways

of reformulating dynamic and disequilibrium models using two illustrations which exhibited many common difficulties, namely:

1. (1) the relationship linking starts to completions of new housing; and

2. (2) ‘min-condition’ disequilibrium supply-demand systems.

In the first example, respecification of the lag reactions based on control servomechanisms and of the functional form to allow untruncated error distributional assumptions jointly produce an equation where selection is possible of both dynamics and economic influences on the lag profile. The resulting model offers a parsimonious parameterization, encompasses previous disparate studies and explains the prevalence of serious residual autocorrelation in distributed lag representations. In (2), the inherent lack of identification of the regime probabilities when assuming a bivariate error distribution entails reformulating the min-condition to allow use of univariate distributions. Once this is done, feedbacks from lagged disequilibria can be introduced in the decision equations without much increase in the computational burden.

In both cases, constructive critiques were offered of many aspects of ‘conventional’ formulations and emphasis was placed on:

1. (a) formulating agents' plans in terms of conditional expectations about which independent, normal distributions for the observed data are reasonable;

2. (b) eradicating all complications which are not essential to the efficient estimation of the parameters of interest in the relevant conditional sub-models; and

3. (c) using a framework which sustains easy incorporation of additional generalizations such as prior information, endogeneity of certain regressors, common factors in lag polynomials etc. without inducing computational complexities which inhibit the application of appropriate selection techniques.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-45H2TBT-1X/2/3c60b286dd20f4ae2b0866529a0d99c3

1.108 Davidson James E. H. & David F. Hendry, 1981. "Interpreting econometric evidence: The behaviour of consumers' expenditure in the UK," European Economic Review, Elsevier, vol. 16(1), pages 177-192.

The dynamic models of consumers' expenditure proposed by Davidson et al. (1978) and Hendry and von Ungern-Sternberg (1979) are re-appraised in the light of Hall's (1978) analysis of the empirical implications of the Life Cycle/Permanent Income Hypothesis, in particular that the series for consumption should obey 'a random walk apart from trend'. In an attempt to reconcile the conflicting findings, Monte Carlo experiments are used to demonstrate that if the Davidson et al. model were actually correct the Hall model would appear to give a good description of the data and would probably not be rejected. All the models are re-estimated with new data for the UK, and these data do reject a modified 'random-walk' specification. In conclusion, we discuss the issue of income exogeneity, and comment on questions of model selection and interpretation.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6V64-45F63R6-H4/2/cc785bca9c244fb867daace3e446cc8b

1.109 David F. Hendry & Srba Frank, 1980. "Autoreg: a computer program library for dynamic econometric models with autoregressive errors," Journal of Econometrics, Elsevier, vol. 12(1), pages 85-102, January.

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http://www.sciencedirect.com/science/article/B6VC0-45PMHCB-J/2/b7b3fa256f2122286f4c6db9491bc1c8

1.110 David F. Hendry, 1980. "Econometrics-Alchemy or Science?," Economica, London School of Economics and Political Science, vol. 47(188), pages 387-406, November.

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1.111 Mizon Grayham E. & David F. Hendry, 1980. "An Empirical Application and Monte Carlo Analysis of Tests of Dynamic Specification," Review of Economic Studies, Blackwell Publishing, vol. 47(1), pages 21-45, January.

No abstract available.

Full text available on-line at:

http://www.jstor.org/page/info/about/index.jsp

1.112 David F. Hendry, 1979. "The behaviour of inconsistent instrumental variables estimators in dynamic systems with autocorrelated errors," Journal of Econometrics, Elsevier, vol. 9(3), pages 295-314, February.

To appropriately interpret time-series evidence when empirical relationships are incorrectly formulated, a general mis-specification framework is required. A linear, stationary, dynamic, simultaneous system with autoregressive errors is postulated to investigate instrumental variables estimators when the instruments are unknowingly correlated with the equation errors. The approach uses *control variates* (Hendry and Harrison, *Journal of Econometrics*, July 1974) to develop asymptotic distributions and exact moments for approximations to the econometric estimators. The accuracy of the asymptotic results for finite sample moments is corroborated by simulation. The analysis highlights the need for care in interpreting estimated equations and tests for predictive failure.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-4582GVW-H/2/b712d815b66d45d3cec1238260ffd931

1.113 David F. Hendry & Mizon Grayham E., 1978. "Serial Correlation as a Convenient Simplification, not a Nuisance: A Comment on a Study of the Demand for Money by the Bank of England," Economic Journal, Royal Economic Society, vol. 88(351), pages 549-63, September.

No abstract available.

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1.114 Davidson James E.H., et al, 1978. "Econometric Modelling of the Aggregate Time-Series Relationship between Consumers' Expenditure and Income in the United Kingdom," Economic Journal, Royal Economic Society, vol. 88(352), pages 661-92, December.

No abstract available.

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http://www.jstor.org/page/info/about/index.jsp

1.115 David F. Hendry & Srba Frank, 1977. "The Properties of Autoregressive Instrumental Variables Estimators in Dynamic Systems," Econometrica, Econometric Society, vol. 45(4), pages 969-90, May.

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1.116 David F. Hendry & Tremayne Andrew R., 1976. "Estimating Systems of Dynamic Reduced Form Equations with Vector Autoregressive Errors," International Economic Review, Department of Economics, University of Pennsylvania and Osaka University Institute of Social and Economic Research Association, vol. 17(2), pages 463-71, June.

No abstract available.

Full text available on-line at:

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1.117 David F. Hendry, 1976. "The structure of simultaneous equations estimators," Journal of Econometrics, Elsevier, vol. 4(1), pages 51-88, February.

The formula for the Full Information Maximum Likelihood Estimator for a linear simultaneous system (with finite variance, serially independent errors) is

demonstrated to be an *estimator generating equation* for econometrics in that all presently known estimators are readily derivable from that formula if they are considered as numerical approximations to its solution. Further, the approach immediately classifies the resulting estimators into asymptotically equivalent groups. The method is then generalized to encompass the large class of estimators for dynamic systems with (vector) autoregressive errors. The very close relationship between estimation rules and non-linear optimization algorithms is highlighted.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B6VC0-4599HM6-B/2/c07913ae6cca1ab2a1955950e5346b0a

1.118 David F. Hendry, 1974. "Stochastic Specification in an Aggregate Demand Model of the United Kingdom," Econometrica, Econometric Society, vol. 42(3), pages 559-78, May.

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1.119 David F. Hendry & Harrison Robin W., 1974. "Monte Carlo methodology and the small sample behaviour of ordinary and two-stage least squares," Journal of Econometrics, Elsevier, vol. 2(2), pages 151-174, July.

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1.120 David F. Hendry, 1973. "On Asymptotic Theory and Finite Sample Experiments," Economica, London School of Economics and Political Science, vol. 40(158), pages 210-17, May.

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1.121 David F. Hendry, 1971. "Maximum Likelihood Estimation of Systems of Simultaneous Regression Equations with Errors Generated by a Vector Autoregressive Process," International Economic Review, Department of Economics, University of Pennsylvania and Osaka University Institute of Social and Economic Research Association, vol. 12(2), pages 257-72, June.

No abstract available.

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1 Chapters

2.1 David F. Hendry & Bent Nielsen, 2007. "The Bernoulli model, from Econometric Modeling: A Likelihood Approach," Introductory Chapters, in: Econometric Modeling: A Likelihood Approach Princeton University Press.

Econometric Modeling provides a new and stimulating introduction to econometrics, focusing on modeling. The key issue confronting empirical economics is to establish sustainable relationships that are both supported by data and interpretable from economic theory. The unified likelihood-based approach of this book gives students the required statistical foundations of estimation and inference, and leads to a thorough understanding of econometric techniques. David F. Hendry and Bent Nielsen introduce modeling for a range of situations, including binary data sets, multiple regression, and cointegrated systems. In each setting, a statistical model is constructed to explain the observed variation in the data, with estimation and inference based on the likelihood function. Substantive issues are always addressed, showing how both statistical and economic assumptions can be tested and empirical results interpreted. Important empirical problems such as structural breaks, forecasting, and model selection are covered, and Monte Carlo simulation is explained and applied.

Econometric Modeling is a self-contained introduction for advanced undergraduate or graduate students. Throughout, data illustrate and motivate the approach, and are available for computer-based teaching. Technical issues from probability theory and statistical theory are introduced only as needed. Nevertheless, the approach is rigorous, emphasizing the coherent *formulation*, estimation, and evaluation of econometric models relevant for empirical research.

Full text available on-line at:

http://press.princeton.edu/chapters/s8352.pdf

2.2 Clements Michael P. & David F. Hendry, 2006. "Forecasting with Breaks," Handbook of Economic Forecasting, Elsevier.

A structural break is viewed as a permanent change in the parameter vector of a model. Using taxonomies of all sources of forecast errors for both conditional mean and conditional variance processes, we consider the impacts of breaks and their relevance in forecasting models: (a) where the breaks occur after forecasts are announced; and (b) where they occur in-sample and hence pre-forecasting. The impact on forecasts depends on which features of the models are non-constant. Different models and methods are shown to fare differently in the face of breaks. While structural breaks induce an instability in some parameters of a particular model, the consequences for forecasting are specific to the type of break and form of model. We present a *detailed* analysis for cointegrated VARs, given the popularity of such models in econometrics. We also consider the detection of breaks, and how to handle breaks in a forecasting context, including ad hoc forecasting devices and the choice of the estimation period. Finally, we contrast the impact of structural break non-constancies with non-constancies due to non-linearity. The main focus is on macro-economic, rather than finance, data, and on forecast biases, rather than higher moments. Nevertheless, we show the relevance of some of the key results for variance processes. An empirical exercise `forecasts' UK unemployment after three major historical crises.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B7P5J-4JSMTWJ-H/2/e17d009c73049240317e03f537ebebdd

2.3 David F. Hendry, 1984. "Monte carlo experimentation in econometrics," Handbook of Econometrics, in: Z. Griliches & M. D. Intriligator (ed.), Handbook of Econometrics, edition 1, volume 2, chapter 16, pages 937-976 Elsevier.

No abstract available.

Full text available on-line at:

http://www.sciencedirect.com/science/article/B7GX7-4DXJCWR-W/2/1db5a3152ef7cbc0c238c927dd313519

2.4 David F. Hendry, Pagan Adrian R. & Sargan J. Denis, 1984. "Dynamic specification," Handbook of Econometrics, in: Z. Griliches & M. D. Intriligator (ed.), Handbook of Econometrics, edition 1, volume 2, chapter 18, pages 1023-1100 Elsevier.

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