OxMetrics news

NEW MODULES   NEW RELEASES   FAQS   USERS VIEWS   COURSES AND SEMINARS

Announcing OxMetrics™6.1

Jurgen A. Doornik

The release of OxMetrics 6.1 is timed to coincide with the 8th OxMetrics user conference, taking place in Washington, DC. This newsletter describes what is new in the OxMetrics front-end, G@RCH and STAMP. We also provide a list of papers that will be presented at the conference. Finally and with great sadness, we print an obituary of Ana Timberlake.

2. New file formats

The new release of OxMetrics, version 6.1, is a minor upgrade. Nonetheless, there are some useful new features, especially support for some additional file formats.
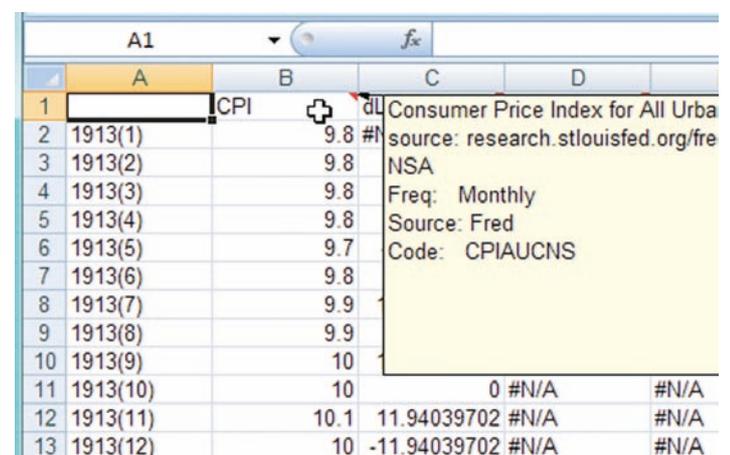
2.1 Office Open XML

Microsoft Office™ 2007 changed all document formats to xml, using a format called Office Open XML (OOXML). The file extensions for this format had a letter `x' appended. E.g., `data.xls` is using the format prior to Excel™ 2007, while `data.xlsx` would be in the new format. (By default, Windows™ hides file extensions, and the difference in the icons for .xls and .xlsx is quite subtle). OOXML was accepted as an ECMA standard, and is now, after some controversy, also an ISO standard. At over 6000 pages, the format is quite daunting, and neither Excel nor OxMetrics support all features of the spreadsheet component.

OxMetrics can read as well as write OOXML files. The format is the same on Windows, OS X and Linux. There are some improvements in comparison to the old .xls format:

- Database comment is preserved in the worksheet as comment on the top-left (empty) cell.
- Variable comment is preserved as comment on the variable label.
- Choice values are preserved when saving. In case they are not consecutive, the values are added to the variable comment, which is then re-used by OxMetrics when the file is read.

- Text may contain unicode.
- When reading, sample period information is handled through the first column. This must be a column of dates (integers formatted as a date), or strings of the form 2010(1), 2010M1, or 2010Q1, etc..

The following picture shows the `usmacro09_m.in7` file saved by OxMetrics as `usmacro09_m.xlsx` and loaded in Excel:

OxMetrics only reads the first sheet from the workbook, but the underlying code is much more flexible, and we expect to offer more features in the future.

The OpenDocument format is an alternative xml specification that is used by OpenOffice.org. This format is not supported by OxMetrics 6.1.

2.2 Stata data files

OxMetrics can now read and write the most recent Stata .dta files. The written file uses the 114 format, while both 113 and 114 formats can be read. Variables with text labels for values are read and written. Comment is preserved, but only up to 81 characters. This is a cross-section format: there is no time-series information on the sample when loading, nor is it preserved when saving.

The old version 4,5,6 files are still read, so can be converted to the new format by reading them into OxMetrics and then saving them.

2.3 PDF files

Graphs can now be saved as pdf files. Pdf is a binary storage format that can be handled by many other programs. It is a compressed format, so the files are smaller than (encapsulated) PostScript. However, the latter offers more flexibility, because it is an interpreted language, and saved as a text file by OxMetrics. Unicode is not supported in either format.

2.4 Other changes

This is a selection of the smaller improvements that were made:

- There is a new command to insert the current date and time (the short-cut key is F5). The date and time are pasted into the text in ISO format yyyy-mm-dd hh:mm:ss, so putting the year first and using a 24-hour clock. There is also a Batch command to do this: `printdate`.
- Syntax colouring is implemented through definition files. There is a new element that specifies a string after which the line has a different colour. This is used to differentiate lines with preprocessor statements:

```
1   #ifndef MBASE_INCLUDED
2   #define MBASE_INCLUDED
3
4   #include <database.h>
5   #include <maximize.h>
6
7   enum
8   {    Y_VAR, X_VAR
9   };
10  enum
11  {    MS_NONE, MS_DATA, MS_PARAMS
12  };
13  enum
14  {    // NB: these are matched in
```

- A selected block of text can be wrapped (right-justified) to the document's wrap width from the Format menu (or the window width if no wrap size is specified). Wrapping while typing can now be set for a specific file from Edit/Text Properties.
- All OxMetrics programs now use the default Windows 7 fonts for dialogs and workspace. The default fixed-width font can now also be set in OxMetrics, and is used in all places where a fixed font is used. The `Consolas` font of Windows 7 is a nice alternative for the default Courier New (OxEdit: Tools/Preferences/Fonts and Colors; OxMetrics: Modules/Preferences/Options).
- By default OxMetrics does not ask to save graphics or text windows created by modules such as TSP or from Ox programs. This behaviour can now be changed by clicking 'Always ask to save text and graphics windows from modules' from Model/Preferences/Options.
- The generated regime switching code from PcGive would not run, giving an error message that switchpack.dll could not be found. This packaging error has been fixed. Also fixed was the issue that fore-casting with derived functions did not work with a dated database. The default naming when storing in the database was also improved, using DF: F1: F2: etc prefixes.

3. G@RCH 6.1

Sébastien Laurent

G@RCH is an OxMetrics module dedicated to the estimation and fore-cast of univariate and multivariate ARCH-type models. It also allows the estimation of univariate and multivariate non-parametric estimators of the quadratic variation and the integrated volatility.
G@RCH provides a menu-driven easy-to-use interface as well as some graphical features.
For repeating tasks, the models can be estimated via the Batch Editor of OxMetrics or using the Ox language together with the `Garch', `MGarch' and `Realized' classes.

3.1 What's new in G@RCH 6.1

1) Bug fixed: Thanks to Charles Bos and Janus Pawel, a bug in the estimation of the EGARCH with Student-t errors has been fixed.
2) A new DCC model is available.
It is now widely accepted that financial volatilities move together over time across assets and markets.
To illustrate, Figure 1 plots the daily returns (in %) of two major US indices, namely the Dow Jones and Nasdaq (from 1989-09-28 to 2004-09-27).
The unconditional correlation between the two series is about 70%.
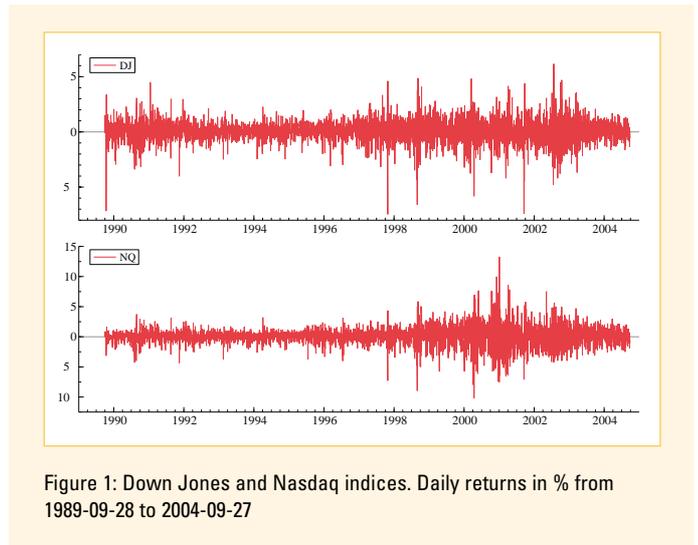

Figure 1: Down Jones and Nasdaq indices. Daily returns in % from 1989-09-28 to 2004-09-27

Recognizing this feature through a multivariate GARCH (MGARCH) framework would lead to more relevant empirical models than working with separate univariate GARCH models.
From a financial point of view, MGARCH models open the door to better decision tools in various areas, such as asset pricing, portfolio selection, option pricing, hedging, and risk management. Indeed, unlike at the beginning of the 1990s, several institutions have now developed the necessary skills to use the econometric theory in a financial perspective.

3.2 MGARCH framework

Consider a vector stochastic process $\{y_t\}$ of dimension $N \times 1$ and let Ω_{t-1} be the information set up to time $t - 1$. MGARCH models belong to the following family of models:

$$y_t = \mu_t(\theta) + \epsilon_t, \qquad (1)$$

where θ is a finite vector of parameters, $\mu_t(\theta)$ is the conditional mean vector and,

$$\epsilon_t = H_t^{1/2}(\theta)z_t, \qquad (2)$$

where $H_t^{1/2}(\theta)$ is a $N \times N$ positive definite matrix. See Bauwens, Laurent and Rombouts (2006) for a recent survey on MGARCH models.[1]

Several MGARCH models are available in G@RCH since version 5.0. The most popular one is maybe the DCC.

The DCC model of Engle (2002)[2] is defined as:

$$H_t = D_t R_t D_t, \qquad (3)$$

where $D_t =$ diag $(h_{11t}^{1/2} \ldots h_{NNt}^{1/2})$ and h_{iit} can be defined as any univariate GARCH model, and

$$R_t = \text{diag}\,(q_{11,t}^{-1/2} \ldots q_{NN,t}^{-1/2})\, Q_t\, \text{diag}\,(q_{11,t}^{-1/2} \ldots q_{NN,t}^{-1/2}),$$

where the $N \times N$ symmetric positive definite matrix $(q_{ij,t})$ is given by:

$$Q_t = (1 - \alpha - \beta)\overline{Q} + \alpha u_{t-1}u_{t-1}' + \beta Q_{t-1}, \qquad (4)$$

with $u_t = (u_{1t}\ u_{2t}\ \ldots u_{Nt})'$ and $u_{it} = \epsilon_{it}/\sqrt{h_{iit}}$. $\overline{Q}$ is the $N \times N$ unconditional variance matrix of u_t, and α and β are non-negative scalar parameters satisfying $\alpha + \beta < 1$.

---

[1] Multivariate GARCH Models: a Survey, *Journal of Applied Econometrics*, 21/1, 79-109.
[2] Dynamic Conditional Correlation: a Simple Class of Multivariate Generalized Autoregressive Conditional Heteroskedasticity Models, *Journal of Business and Econometric Statistics*, 20, 339-350

A useful feature of the DCC models is that the parameters governing the variance and correlation dynamics can be estimated separately. For the correlation estimation, one typically first estimates $\overline{Q}$ as the empirical correlation matrix of u_t. Then the parameters α and β in (4) are usually estimated by Gaussian quasi maximum likelihood.

Aielli (2009)[3] has recently shown that the estimation of $\overline{Q}$ as the empirical correlation matrix of u_t is inconsistent because:

$$E[u_t u_t] = E[E[u'_t u_t | \Omega_{t-1}] = E[R_t] \neq E[Q_t].$$

The new model proposed by Aielli (2009) to circumvent this problem is the following.
Let $P_t = \text{diag}\left(q_{11,t}^{1/2} \cdots q_{NN,t}^{1/2}\right)$ and u_t^*. We then get that $E[u_t^* u_t^* | \Omega_{t-1}] = Q_t$. The new model, called corrected DCC (cDCC) is specified as followed:

$$Q_t = (1 - \alpha - \beta)\overline{Q} + \alpha u_{t-1}^* u_{t-1}^{*\prime} + \beta Q_{t-1}, \quad (5)$$

with $\overline{Q}$ the unconditional correlation matrix of u_{t-1}^*.
While being formally incorrect, the estimation of the matrix $\overline{Q}$ and the parameters α and β can be done in two separate steps, under the DCC model.
For the cDCC model, the estimation of the matrix $\overline{Q}$ and the parameters α and β are intertwined, since $\overline{Q}$ is estimated sequentially as the correlation matrix of the u_t^*. To obtain u_t^* we need however a first step estimator of the diagonal elements of Q_t. Thanks to the fact that the diagonal elements of Q_t do not depend on $\overline{Q}$ (because $\overline{Q}_{ii} = 1$ for $i = 1, \ldots, N$), Aielli (2009) proposes to obtain these values $q_{11,t},\ldots,q_{NN,t}$ as follows:

$$q_{ii,t} = (1 - \alpha - \beta) + \alpha u_{i,t-1}^2 + \beta q_{ii,t-1}, \quad (6)$$

for $1, \ldots, N$. In short, given α and β, one can compute $q_{11,t},\ldots,q_{NN,t}$ and thus u_t^* and than one can estimate $\overline{Q}$ as the empirical covariance of u_t^*.

An example of Ox code estimating a bivariate GARCH(1,1)-cDCC is reported below as well as the estimated parameters of the cDCC model and the estimated conditional correlation.

[3] Aielli, G. (2009), Dynamic conditional correlations: on properties and estimation, Unpublished paper: Department of Statistics and estimation, Unpublished paper: Department of Statistics, University of Florence.

```
#include <oxstd.h>
#include <oxdraw.h>
#import <packages/MGarch1/mgarch>

main()
{
    //--- Ox code for MG@RCH( 1)
    decl model = new MGarch();

    model.Load("./data/DJNQ.xls");
    model.Deterministic(-1);

    model.Select(Y_VAR, {"DJ", 0, 0});
    model.Select(Y_VAR, {"NQ", 0, 0});

    model.CSTS(1,1);
    model.DISTRI(NORMAL);
    model.ARMA_ORDERS(1,0);
    model.GARCH_ORDERS(1,1);
    model.VARIANCE_TARGETING(1);
    model.MODEL(cDCC);
    model.MLE(QMLE);
    model.UGARCH_MODELS(GARCH);
    model.ONE_STEP(0);
    model.SetSelSample(-1, 1, -1, 1);
    model.Initialization(<>);
    model.PrintOutput(1);
    model.DoEstimation();

    model.PLOT_CORR(1);
    model.Graphs_in_sample(-1);
    delete model;
```

```
}

    *************
  ** SERIES  **
*************
#1: DJ
#2: NQ

  ********************
  ** SPECIFICATIONS **
  ********************
Conditional Variance : Corrected Dynamic Correlation
Model (Aielli)
Multivariate Normal distribution.

Strong convergence using numerical derivatives
Log-likelihood = -9835.07
Please wait : Computing the Std Errors ...


Robust Standard Errors (Sandwich formula)

              Coefficient  Std.Error  t-value   t-prob
alpha            0.040508  0.0059911    6.761   0.0000
beta             0.951984  0.0079556    119.7   0.0000

Correlation-Targeting

rho_21           0.718857
No. Observations :      3913 No. Parameters :        13
No. Series      :         2 Log Likelihood :  -9835.071
Elapsed Time : 0.16 seconds (or 0.00266667 minutes).
```
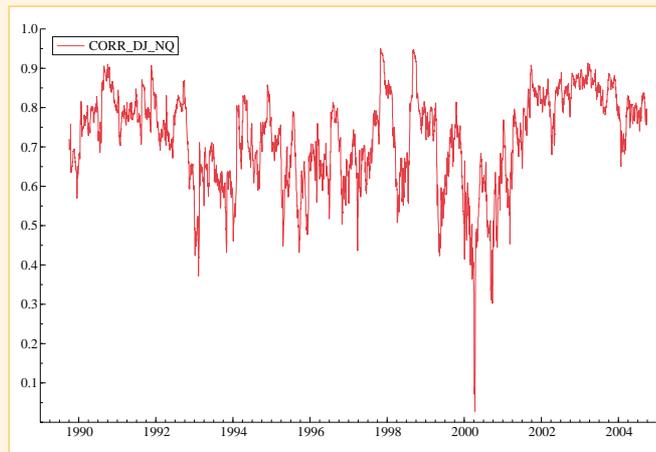

Figure 2: Conditional correlation between the Dow Jones and Nasdaq indices. GARCH-cDCC model.

4. STAMP™ 8.30
Batch and Ox code generator
Siem Jan Koopman

4.1 What's New in STAMP 8.30

The new update of the STAMP program is given version 8.30 and it contains the facility to generate Ox code for the model that is estimated in STAMP. It complements the Batch code generator in STAMP. It is particularly useful for those who use Ox regularly as their programming environment for analysing time series. In this short overview of the Batch and Ox code generators in OxMetrics for the STAMP program, we will present some examples of their use. We will consider the basic structural time series model with unobserved components (UC) trend, seasonal and irregular and use it for the analysis of the time series with missing entries ``ofuELI'' from the STAMP data set ``ENERGYmiss.in7''.
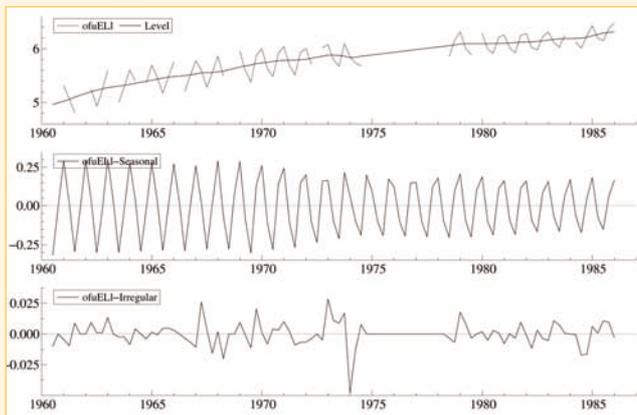The decomposition of the series is graphically presented in Figure 3.

Figure 3: Quarterly UK electricity consumption between 1960 and 1986: millions of useful therms for "Other final users". The decomposition from STAMP is based on a basic structural time series model with trend, seasonal and irregular components. Data source: UK Department of Energy.

4.2 Generating batch code

After STAMP has estimated the parameters of the BSM, the standard output is sent to the Text/Results and the Graphics/Model windows. The graphical output is as presented in Figure 3. The batch option is activated from the Model/Batch option (Alt-B). It shows the window which presents the Batch code as given by

```
// Batch code for UC( 1)
module("STAMP");
package("UCstamp");
usedata("ENERGYmiss.in7");
system
 {
      Y = ofuELl;

}
setcmp("level", 1, 0.000387097, 0, 0);
setcmp("slope", 1, 1.87978e-006, 0, 0);
setcmp("seasonal", 4, 0.00017307, 0, 0);
setcmp("irregular", 0, 0.000524284, 0, 0);
setmodel();
estimate("ML", 1960, 3, 1986, 1);
```

The code represents the model in STAMP after maximum likelihood estimation. The commands ``module'' and ``package'' are required to start the STAMP module in OxMetrics. The command ``usedata'' loads the data file "ENERGYmiss.in7" while the command ``system'' assigns the variable ofuELl as the dependent variable that we want to analyze. The unobserved components model is constructed by the commands ``setcmp'' which introduces the components level with slope (trend), seasonal and irregular. The third arguments are the estimated variances for the components. The model formulation for our unobserved components model is completed by the command ``setmodel''. Although the variances in the ``setcmp'' commands are the ones estimated by STAMP (using the method of maximum likelihood), the Batch facility offers the command ``estimate'' to (re-)estimate the variances by maximum likelihood ("ML") or expectation-maximization ("EM") or another STAMP estimation method. To run the Batch code, click on the Run button (Alt-R) and the STAMP program will re-estimate the UC model.

In case we prefer a deterministic seasonal component, we can fix the seasonal variance by setting the variance to zero, that is 0.0, via the Batch code

```
...
setcmp("level", 1, 0.000387097, 0, 0);
setcmp("slope", 1, 1.87978e-006, 0, 0);
setcmp("seasonal", 4, 0.0, 0, 0);
setcmp("irregular", 0, 0.000524284, 0, 0);
setmodel();
estimate("ML", 1960, 3, 1986, 1);
```

When the variance is set to zero in the ``setcmp'' command, the STAMP program will treat the component as deterministic (the component is fixed over time). A part of the STAMP output in the Results window reports the maximum likelihood estimates of the variances:

```
Variances of disturbances:
                      Value      (q-ratio)
Level              0.000000   (    0.0000)
Slope          1.32900e-006  ( 0.0002261)
Seasonal           0.000000   (    0.0000)
Irregular        0.00587911   (    1.000)
```

It follows that the Level component is also estimated as zero which leads to a smooth trend component in STAMP.

Other useful Batch commands are ``intervention'' for including interventions in the model, ``forecast'' for generating forecasts from the model, ``store'' for storing residuals and estimated components from STAMP and ``teststate'' for printing the estimated state vector and related output. These commands are documented in the STAMP manual.

4.3 Generating Ox code

An alternative but a more flexible method of running STAMP in batch is offered in version 8.30 by means of the Ox code generator facility. It is activated by pressing Alt-O when STAMP is actived. In case a model is formulated in STAMP and parameters are estimated, the option Alt-O opens the menu window ``Generate Ox code'' in which the user has two options. The default choice is ``Most recent model'' and can be accepted. STAMP then outputs the following Ox code

```
#include <oxstd.h>
#import <packages/stamp/stamp_ox_uc>
main()
{
  //--- Ox code for UC( 1)
  decl model = new UCstamp();

  model.Load("ENERGYmiss.in7");
  model.Select(Y_VAR, {"ofuELl", 0, 0});
  model.SetSelSample(1960, 3, 1986, 1);
  model.SetMethod(M_ML);

  model.StartStamp();
  model.AddComponent(COM_LEVEL, 1, 0.000387097);
  model.AddComponent(COM_SLOPE, 1, 1.87978e-006);
  model.AddComponent(COM_SEASONAL, 4, 0.00017307);
  model.AddComponent(COM_IRREG, 0, 0.000524284);
  model.Estimate();

  delete model;
}
```

When STAMP is installed on the computer, the ``stamp_ox_uc'' library offers many Ox functions that are developed for STAMP. These functions are collected in the class ``UCstamp'' which is activated by the ``new'' command in Ox. The command ``Load'' reads in the data file

``ENERGYmiss.in7'' and ``Select'' takes the variable ofuELI as the dependent variable to analyze. In the Ox code, we can first select the sample and the estimation method using the commands ``SetSelSample'' and ``SetMethod'', respectively.

The command ``StartStamp'' initializes the settings for formulating an UC model. The next part of the Ox code is similar to the Batch code. The inclusion of a component is established by the command ``AddComponent''. In case of the seasonal component, the constant ``COM_SEASONAL'' indicates that the seasonal component is included in the model. The second constant indicates that we work with quarterly data (seasonal length is 4) and the value 0.00017307 is the value of the seasonal variance, as estimated by the STAMP program. The ``Estimate'' command (re-)estimates the variances (and, possibly, other parameters).

Other commands in the ``stamp_ox_uc'' library are ``AddIntervention'' for including interventions in the model, ``GetForecast'' for generating forecasts from the model, ``Store'' for storing residuals and estimated components from STAMP and ``PrintState'' for printing the estimated state vector.

4.4 Creating a link with SsfPack

For SsfPack users, the Ox code generator can facilitate a convenient link with the SsfPack functions. We can illustrate the link with the following extended example Ox code.

```
#include <oxstd.h>
#include <packages/ssfpack/ssfpack.h>
#import <packages/stamp/stamp_ox_uc>
main()
{
  decl model = new UCstamp();
  //...
  model.Estimate();

  decl dlik, dvar, vy, mphi, momega, msigma;
  vy = model.GetDataY();
  model.GetSsf(&mphi, &momega, &msigma);

  SsfLikEx(&dlik, &dvar, vy, mphi, momega, msigma);
  println("The SsfPack loglikelihood value is ", dlik);

  delete model;

}
```

The Ox code includes the SsfPack library of functions. All necessary variables for SsfPack can be obtained from the ``stamp_ox_uc'' library. The command ``GetDataY'' returns the data vector of the dependent variable (as a row vector). The command ``GetSsf'' returns the state space system matrices of the UC model. The system matrices are required for the SsfPack function. We illustrate it for the computation of the loglikelihood value using the SsfPack function ``SsfLikEx''.
The output is given by

```
The SsfPack loglikelihood value is 87.6671
```

All other SsfPack functions can be used in this framework as well and we refer to the SsfPack manual for a full description of SsfPack.

5. Timberlake Consultants - Consultancy & Training

Timberlake Consultants have a strong, well established team of consultants who deliver training courses (public attendance or onsite) and consultancy projects that require the OxMetrics™ suite of software. The principal language used in the delivery of our courses is English, however we are able to provide some courses in other languages, such as French, Dutch, Italian, German, Spanish, Portuguese, Polish and Japanese.

Timberlake regularly organise public attendance courses in London (UK), Europe and the East and West Coasts of the USA. Full details can be found on our website – **www.timberlake.co.uk**. We also offer tailored on-site training courses. Details of the services that we provide can also be found on our website. If you would like to speak to a member of our training team regarding any specific requirements that you may have, please call +44 (0) 20 8697 3377.

6. 8th OxMetrics™ User Conference 18 & 19 March 2010
George Washington University, Washington DC, USA

The OxMetrics™ User Conferences provide a forum for the presentation and exchange of research and practical experiences within the fields of computational and financial econometrics, empirical economics, time series and cross section statistics and applied mathematics. The conference programme will feature keynote presentations, technical paper sessions, tutorials and panel discussions. The developers of OxMetrics™ software will be present (Jurgen A. Doornik, David F. Hendry, Siem Jan Koopman and Sébastien Laurent) as keynote speakers, along with the technical organisers, Neil R. Ericsson and Frederick L. Joutz. The conference is open to all those interested, not just to OxMetrics™ Users, from academic and non academic organisations.

LIST OF PAPERS

- **David F. Hendry**, University of Oxford, "Empirical Model Discovery"
- **Jurgen A. Doornik**, University of Oxford, "Flu Forecasting: Can Web Search Data Really Help?"
- **Siem Jan Koopman**, Tinbergen Institute, "Signal Extraction and Forecasting based on Unobserved Components: Univariate and Multivariate Approaches"
- **Sébastien Laurent**, Maastricht University, "Robust Estimation of DCC-GARCH Models"
- **Neil R. Ericsson**, Federal Reserve Board and George Washington University, "Empirical Model Selection: Friedman and Schwartz Revisited"
- **Frederick L. Joutz**, George Washington University, "Modeling and Forecasting Electricity Consumption in Norway:
- **Genaro Sucarrat**, Universidad Carlos III de Madrid, "Automated Model Selection in Finance: General-to-Specific Modelling of the Mean Variance and Density"
- **Frank Nickel**, "Allocation Between Active and Passive Investments"
- **Janelle Mann**, Queen's University, "The Role of Long Memory in Hedging Strategies for Canadian Commodity Futures"
- **Jaime Marquez**, Federal Reserve Board, "U.S. Treasury Yields and Foreign Holdings of U.S. Securities"

- **John B. Guerard, Jr**., McKinley Capital Management, LLC "The Corporate Sector as a Net Exporter of Funds: Additional Econometric Evidence"
- **Hildegart A. Ahumada**, Di Tella University, "Selecting the Monetary Deflator by an Encompassing Approach: The Case of Argentina"
- **Christopher J. Nekarda**, Federal Reserve Board, "Understanding Unemployment Dynamics: The Role of Time Aggregation"
- **Shaghil Ahmed**, Federal Reserve Board, "Are Chinese Exports Sensitive to Changes in the Exchange Rate?"
- **Mohammed H.I.** Dore and Rajiv G. Singh, Brock University, "The Role of Credit in the 2007-09 Great Recession"
- **Xiaoshan Chen,** University of Glasgow, "Measuring the Euro Area Output Gap using Multivariate Unobserved Components Models Containing Phase Shifts"
- **Yu-Cheng Ku,** North Carolina State University, "Generating Random Wishart Matrices with Fractional Degrees of Freedom in OX"
- **Imran Shah**, University of Leicester, "High Inflation Periods and Real Effects in Developing Countries: Some Empirical Evidence"
- **Giovanni Urga**, Cass Business School, "Monetary Disorder and Financial Regimes. The Demand for Money in Argentina, 1900-2006"

7. 9th OxMetrics™ User Conference 16 & 17 September 2010
Cass Business School, London, UK

CALL FOR PAPERS
Presentation topics and abstract submissions might include:
- discussion of user-written OxMetrics programs
- case studies of research or teaching using OxMetrics
- discussions of data management problems
- reviews of analytical issues
- surveys or critiques of OxMetrics facilities in specific fields, etc.

Submission of an abstract/paper.
Please submit an abstract and full paper by email to Prof Giovanni Urga (g.urga@city.ac.uk). The abstract should be no more than 200 words and the paper should be in PDF format.
You should indicate whether you wish to give:

- a 20 min talk (followed by 10 min discussion)
- a 10 min talk (followed by 5 min discussion), or
- a longer review or tutorial (about 45 minutes followed by 15 minutes discussion).

For more information, please visit our website **www.timberlake.co.uk**

8. Conferences

Timberlake Consultants will be attending a number of Conferences throughout 2010 and 2011. Please come and visit us at our stand. We look forward to seeing you there!

3 – 5 January 2010
AEA Conference, Atlanta, Georgia, USA

29 – 31 March 2010
Royal Economic Society, University of Surrey, Guildford, Surrey, UK

26 – 28 May 2010
FFM Conference, Hannover Germany

10 – 11 June 2010
Ionian Econometric Society conference, University of Ionian, Greece

20 – 23 June 2010
30th ISF Meeting, San Diego, California, USA

7 – 9 July 2010
African Econometric Society, Cairo, The American University, Cairo, Egypt

31 July – 5 August 2010
Joint Statistical Meetings (JSM), Vancouver, Canada

17 – 21 August 2010
World Congress of the Econometric Society, Shanghai, China

23 – 26 August 2010
EEA Conference, Glasgow University, Glasgow, Scotland

7 -9 January 2011
AEA Conference, Denver, Colorado, USA

ANA TIMBERLAKE
1943 - 2009
www.guardian.co.uk/theguardian/2010/feb28/ana-timberlake-obituary

Ana Timberlake, who has died aged 66 of pulmonary fibrosis, was one of those women who proved that you can have it all.

A successful business woman and loving mother of three, Ana was the founder of Timberlake Consultants Limited (TCL), a statistical consultancy firm, with particular applications in medical research and econometric modelling.

Ana was born in Portugal, the daughter of a civil engineer. Her father, Armando da Palma Carlos, was at that time the resident engineer on the Pego do Altar dam construction site, Alentejo, where Ana spent her early childhood. Her family were no strangers to successful women. Her aunt, Elina Guimarães (whose husband, Adelino da Palma Carlos, was appointed prime minister following the 1974 revolution) was head of the National Council of Portuguese women and is considered to have been the first feminist in Portugal.

Ana took her first degree, in mathematics, at Lisbon University, before coming to Britain in 1969 to do a master's degree in statistics and operational research at Southampton University. She then took up employment at PTRC (Planning and Transport Research and Computation), a small research unit in London.

An early assignment at PTRC was to re-analyse the results of Robert Borkenstein's 1964 Grand Rapids study, upon which the British breathalyser test had been based in the mid-1960s. The original data had not been statistically adjusted and earlier analysis had suggested that driving improved with the intake of a small amount of alcohol. However, after Ana had standardised the data (for weather, vehicle age, driving experience, and so on), it became clear (much to the chagrin of the brewers) that alcohol intake did indeed make driving capability progressively worse.

At PTRC, Ana commenced a doctoral research degree at Queen Mary College (QMC), London, under David E. Barton, into the use of mathematics by scientists and engineers. This research caused some consternation among certain professions (such as actuaries) when the investigations showed that the level of mathematical sophistication generally employed by them at that time barely exceeded that gained in a standard O-level mathematics course.

After leaving QMC, Ana joined Control Data Corporation in London, where she formed lifelong associations with academics, researchers and developers of statistical techniques, econometric modelling and software. This led her to set up TCL in 1982. She somehow managed to juggle family life with building it into a global business.