Fifth International Institute of Forecasters Workshop on "Predictability of Financial Markets"

Lisbon 16-17th January 2009

The Fifth International Institute of Forecasters Workshop on "Predictability of Financial Markets" was celebrated during 16 and 17th of January 2009 in the old beautiful building of the ISEG in Lisbon. In the old times, this building was a monastery and we have used its impressive cloister decorated with typical Portuguese tiles for the coffee breaks and lunches. The presentations have taken place in the old chapel now redecorated as an auditorium and one room close to the cloister. For a few days we were having a flavour of the way of living of the old nuns, even the temperature that they used to experience!

The workshop has been organized by Nuno Crato from ISEG and CEMAPRE and Esther Ruiz from the Universidad Carlos III de Madrid. Around 100 participants coming from Australia, France, United Kingdom and mostly Spain and Portugal attend the meeting.

The opening speeches were made by Nuno Crato, the President of the International Institute of Forecasters, Antonio García-Ferrer from the Universidad Autónoma de Madrid, and the Dean of ISEG, António Mendonca. They welcome the participants and make a point about the importance of predicting financial markets and our gratitude to the Nobel Prize, Clive Granger, for participating in the meeting.

In the opening session, chaired by Nuno Crato, Clive Granger presented a speech entitled "Predictability of financial markets in theory and practice" with his personal thoughts on hot topics on the predictability of financial markets. Among other ideas, he pointed out that volatility is fluctuation but not risk. However, he mentioned the importance of modelling volatility because there is a new market for it where it is traded as a commodity. He also mentioned that a nonlinear model can always be approximated by a linear model with time-varying parameters which is easier to forecast than the former. Another topic important for forecasting financial markets put forward by Clive Granger was the importance of forecasting quantiles and the shape of the distributions. This speech was brilliantly discussed by Antonio García-Ferrer who talked about the role of uncertainty as the main difference between financial econometrics and “economic” econometrics. Then, the discussion was opened to the attendants.

After the coffee break, Esther Ruiz chaired the second session in which Rohit Deo talked about “Predictive regression in Finance: It’s the intercept, not the autocorrelation!”. He talked about the biases encountered in the predictive regression. The paper was discussed by Paulo Rodrigues.

The lunch was a delicious selection of Portuguese food. Special mention deserves the cakes which make most of us to gain weight. The first session after the lunch, chaired by Juan Romo, had two papers. The first one was presented by Richard Baillie on “Semi parametric estimation of long memory: comparisons and some attractive alternatives”. He discussed the difficulties of the Local Whittle estimator in estimating the long-memory parameter when compared with a Maximum Likelihood estimator. The paper was discussed by Josu Arteche who shows that depending on the knowledge on the short memory dependency, the Whittle estimator still has a role to do. After the reply from Richard, a very lively floor discussion took place on the usefulness of long-memory to represent the dynamic evolution of real time series. The next paper of this session was presented by Gloria González on “Forecasting with interval and histogram data: some financial applications”. She presented really new ideas on modelling, for a given variable, the evolution of intervals or even the whole histogram instead of focusing on just one data point at each time. The paper was discussed by Joao Nicolau. Gloria`s paper interested so much the audience that all participated actively on the floor discussion on the interpretation of this new type of data and whether the prediction of the histogram can help to predict better quantities of interest from a financial point of view as, for example, the mean and the volatility.

The last Friday´s paper was presented after a coffee break, with more delicious cakes, in a session chaired by Jorge Caiado. The paper, entitled “Better to give than to receive: Forecast-based measurement of volatility spillovers”, was presented by Frank Diebold. He discusses new measures of cross-markets volatility spillovers. This is a fundamental issue on describing financial markets as it allows to measuring the volatility transmissions among different markets which nowadays has been so important to understand what is happening. The paper was discussed by Raquel Gaspar who was the youngest and toughest discussant of the meeting. She asked about whether the financial market leads the real economy or is the other way round. She also suggested incorporating a corporate bond index in the model for contagion in the United Sates considered in the paper by Frank. After Frank’s response, the floor discussion was opened with question about possible spillover effects between variances and covariances.

Friday finished with a superb dinner at the restaurant Casa do Leao within the Castelo San Jorge. The food and wine were really good and accompanied by the wonderful music of a pianist. However, the most impressive characteristic of the dinner was the views of Lisbon from the castle. It is worth to walk up there only to experience the views over the city and the river. After dinner, most participants walked back to their hotels as next day started early with more intensive sessions.

The first session on Saturday, chaired by María Jesús Sánchez, had one paper presented by Andrew Harvey on “Dynamic distributions and changing copulas”. He proposed to use time-varying quantiles and copulas to represent the nonlinear relationships between pairs of time series. Then, Ana Pérez did an impressive discussion of the paper asking about criteria to select the number of clusters in which the observations should be divided in order to estimate the quantiles. Andrew was so happy with the discussion that even joked about having clearer his paper after hearing Ana’s discussion. The floor discussion was very lively with questions about whether all quantiles have the same dynamic dependence over time.

After the coffee break, in the next session, chaired by Antonio Martín, Daniel Peña presented the paper “Independent component analysis for financial data” in which he showed how to use the novel idea of independent components to extract information on nonlinear components potentially present in a multivariate system of time series by maximizing the kurtosis. The paper was discussed by Pilar Poncela who explained her difficult position because of her special relationships with the three authors of the paper. In spite of this apparent inconvenience, she did a very interesting discussion raising questions about why to order the components in terms of explained variance when the moment maximized is the kurtosis. She also pointed out whether dependence beyond second order moments could be considered. After Daniel’s reply, several questions were raised from the floor on the accuracy of the estimates or the predictability properties of the factors.

The lunch took place on the cafeteria of ISEG and was again a clear sign of the high quality of Portuguese food. Furthermore, after one day and a half of hard work, people appreciated to have lunch sit down.

The first session after lunch, chaired by Silvio Gama, had two papers. The first one was presented by Stephen Taylor and entitled “A multi-horizon comparison on density forecasts for the S&P 500 index returns and option prices”. Then, Angeles Carnero discussed the paper by adding several suggestions on how to measure the performance of predictions of densities. The floor discussion was very lively with several questions about the relationships between forecast horizons and testing the null of standard Normal densities. The next paper was present by Luis Viceira on “Bond risk, Bond returns volatility and the term structure of interest rates”. The paper presented by Luis had the characteristic of being focused on the interest on predictions from the financial point of view instead than from the methodological point of view. It was a very interesting exercise on the kind of topics that people in finance have an interest. Then, Andreas Heinen did a very detailed discussion. The session finished with several questions from the floor.

After some more cakes in the coffee break, the very last session of the meeting was a round table where all speakers, except Clive Granger who had to live on Saturday morning, present their ideas about which will be important future topics of research on the predictability of financial markets. Gloria González started the debate by pointing out that we are moving from modelling moments to modelling functions to reach the full density. She also mentioned the importance of multivariate distributions. Then, Rohit Deo talked about the importance of structural breaks when predicting and the need of models that help us to predict such breaks. Next, Richard Baillie pointed out the there has been too much attention in Econometrics on hypothesis testing with nulls that can be attractive from a mathematical point of view but that they can be irrelevant in practice. He remarked that models are more important than methods and that, nowadays, nonlinear models should play a central role in prediction. The next speaker was Frank Diebold who was interested in the interface between Macroeconomics and Finance and how macroeconomic variables can help to predict better financial variables. He also mentioned that models work properly in "normal" times but they fail in extreme circumstance. Consequently, he suggested that these extreme circumstances should be incorporated into the models that should pay more attention to risk. Finally, he noted he missed Bayesians at the meeting, because they can help a lot in prediction. Then Andrew Harvey mentioned the importance of using models with time-varying parameters that are able of adapting quickly to structural breaks. He also pointed out the importance of modelling the whole distribution and, in particular, its tails. Next, Stephen Taylor encouraged more research on non-American markets and on high-frequency data. Daniel Peña was the next speaker participating in the round table. He focused on the importance of data dimension reduction, due to the availability of larger and larger data sets. He also mentioned that nonlinear models and models changing over time should be better understood. Finally, Luis Viceira presented his view as a user of statistical and econometric tools. He pointed out the importance of the relationships (nonlinear) between macroeconomic and financial variables and between different markets. The round table finished with several comments from the floor.

However, one last social even took place at Saturday night for those speakers and discussants that still were strong enough as to stay at Lisbon. Nuno Crato chose one excellent Brazilian restaurant, difficult to find close to a dark area in the riverside. It was a very relaxed dinner that closed the meeting in a very pleasant atmosphere.

Last, but not least, it is important to mention that the *International Journal of Forecasting* will be publishing a special number with the papers and discussions presented during these two days in Lisbon. Also, the financial support of the International Institute of Forecasters, CEMAPRE, Elsevier, Fundacao Calouste Gulbenkian, Fundacao Luso-Americana, ISEG, Instituto Flores de Lemus (Universidad Carlos III de Madrid), Montepio and Universidad Autónoma de Madrid should be gratefully acknowledged.

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