ΟΙΚΟΝΟΜΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ

ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS

International Workshop στο πλαίσιο του έργου

Large Shocks /Αριστεία II

(ΜΕΓΑΛΑ ΣΟΚ, ΔΟΜΙΚΕΣ ΑΛΛΑΓΕΣ ΚΑΙ ΜΑΚΡΟΟΙΚΟΝΟΜΙΚΕΣ ΣΧΕΣΕΙΣ)

23 Ιουνίου 2015

FINAL PROGRAM

Επιστημονικός Υπεύθυνος: Ηλίας Τζαβαλής

Τόπος Διεξαγωγής: Radisson Blu Park Hotel Athens

Λεωφόρος Αλεξάνδρας 10
10682 Αθήνα, Ελλάδα

Το έργο Large Shock/Αριστεία II υλοποιείται στο πλαίσιο του Επιχειρησιακού Προγράμματος «Εκπαίδευση και Δια Βίου Μάθηση» και συγχρηματοδοτείται από την Ευρωπαϊκή Ένωση (Ευρωπαϊκό Κοινωνικό Ταμείο-ΕΚΤ) και από εθνικούς πόρους μέσω της Γενικής Γραμματείας Έρευνας και Τεχνολογίας.

Ευρωπαϊκή Ένωση
Ευρωπαϊκό Κοινωνικό Ταμείο

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Tuesday, June 23nd 2015

10:15-10:30 Address by Professor E. Giakoumakis, the vice-rector of the Athens University of Economics & Business about the program of Aristeia II.

10:30-11:45

Vrontos Yiannis: "Bayesian Inference and Variable Selection for predictive Non-Homogeneous Hidden Markov Models"

Arvanitis Stelios: "Saddle-Type Point Functionals for Continuous Processes with applications to Tests for Stochastic Spanning"

11:45-12:15 Coffee break

12:15-13.00

Mcadam Peter: "Will the True Labor Share Stand Up**"**

13:00-14:30 Lunch

14:30-16:15

Leonidas Rompolis: "Pricing and Hedging Contingent Claims Using Variance and Higher Order Moment Swaps"

Yiannis Dendramis: "Shifts in Volatility Driven by Large Stock Market Shocks"

Yiannis Karavias: "Testing for Unit Roots in Panels with Structural Changes, Spatial and Temporal Dependence when the Time Dimension is Finite"

16.15-17:00 Coffee break and Poster Session

16:30-17.15 Poster Session

Argyropoulos Efthimios: "Real term structure forecasts of consumption growth"

Christopoulos Dimitris: "A Growth Model of Financial Reforms and R&D Investment"

Elias Nikos: "Modelling Exchange Rate Risk Premium Effects Based on International Affine Term Structure Models" by E. Argyropoulos, Elias N. and Tzavalis E.

Kapetanios George: "Level shifts in stock returns driven by large shocks"

Kazanas Thanasis: "A nonlinear threshold open economy monetary policy rule and its policy implications" by T. Kazanas and E. Tzavalis

Louka Alexandros: "A Note on the QMLE Limit Theory in the Non-Stationary ARCH(1) model" by S Arvanitis and A. Louka

Magdalinos Tassos: "Robust Econometric Inference in Cointegrated Systems with Multiple Persistence Degrees"

17:15-18:30

Chang Yoosoon:
" Regime Switching Model with Endogenous Autoregressive Latent Factor

Tzavalis Elias: "Retrieving inflation expectations and risk premia effects from the term structure of interest rates"

9.00-23.00 Dinner

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List of participants

Name	Affiliation
Argyropoulos E.	Athens University of Economics and Business
Arvanitis Stelios	Athens University of Economics and Business
Chang Yoosoon	Indiana University
Christopoulos Dimitris	Panteion University
Degiannakis Stavros	Panteion University
Demos Antonis	Athens University of Economics and Business
Economides George	Athens University of Economics and Business
Halkos Giorgos	University of Thessaly
Kapetanios Giorgos	Queen Marry University
Kazanas Athanasios	Athens University of Economics and Business
Leon-Ledesma Miguel	Kent University
Magdalinos A	Southampton University
Palivos Thodoros	Athens University of Economics and Business
Peter McAdam	Surrey University
Philippopoulos Apostolis	Athens University of Economics and Business
Siourounis Gregorios	Panteion University
Tatsos Nikos	Panteion University
Topaloglou Nikos	Athens University of Economics and Business
Tzavalis Elias	Athens University of Economics and Business
Tzouvelekas Vangelis	University of Crete
Yiannis Dendramis	Athens University of Economics and Business
Yiannis Karavias	Nottingham University
Yiannis Vronto	Athens University of Economics and Business

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ABSRACTS OF PAPERS

Argyropoulos Efthimios:

"Real term structure forecasts of consumption growth" by E Argyropoulos and E. Tzavalis

This paper employs an empirically tractable affine term structure model of real interest rates to examine the predictive ability of the real short-term interest rate and its term spread with a longer-term interest rate to predict future real consumption growth. The estimates of the model provide support of the consumption smoothing hypothesis. The paper shows that the real term structure is spanned by two mean-reverting state variables. The mean-reverting property of these variables can consistently explain the forecasting ability of the short-term real rate and term spread to forecast future consumption growth rate, over different horizons ahead. Although the risks associated with changes in these variables are both priced in the market, they are not volatile enough to obscure the information of the real term structure about future real consumption growth.

doi:10.1016/j.jempfin.2015.03.013

Arvanitis Stelios:

"Saddle-Type Point Functionals for Continuous Processes with Applications to Tests for Stochastic Spanning", by Stelios Arvanitis

We derive the continuity properties of the cdf of a random variable defined as a saddle-type point of a real valued continuous stochastic process on a compact metric space. More specifically, this random variable is defined by a finite number of nested optimizations w.r.t. possibly varying closed subsets of the space. Under weak conditions involving Malliavin differentiability, existence of moments for suprema as well as a countability property for the singular points of the derivative, we derive connectedness for the support of the law, a countable number of atoms, and absolute continuity when restricted between successive atoms. This result facilitates the derivation of first order asymptotic properties of tests for stochastic spanning w.r.t. some stochastic dominance relation based on subsampling. As an illustration we define the concept of Markowitz stochastic spanning, derive an analytic representation upon the empirical analog of which we construct a relevant statistical test. In our assumption framework, the test statistic, itself a saddle-type point of an empirical process, converges in distribution under the null to a saddle-type point of a Gaussian process. The aforementioned result enables derivation of asymptotic exactness for the relevant procedure based on subsampling, when the metric space has the form of a simplicial complex, the spanning set is a compact subset and the significance level is chosen according to the number of extreme points of the complex inside the spanning set. Consistency is also derived. Such

tests are of interest in financial economics since they can provide reductions of portfolio sets.

Chang Yoosoon:

"Regime Switching Model with Endogenous Autoregressive Latent Factor" by Yoosoon Chang, Yongok Choi and Joon Y. Park

This paper introduces a model with regime switching, which is driven by an autoregressive latent factor correlated with the innovation to the observed time series. In our model, the mean or volatility process is switched between two regimes, depending upon whether the underlying autoregressive latent factor takes values above or below some threshold level. If the latent factor becomes exogenous, our model reduces to the conventional markov switching model, and therefore, our model may be regarded as an extended markov switching model allowing for endogeneity in regime switching. Our model is estimated by the maximum likelihood method using a newly developed modified markov switching filter. For both mean and volatility models that are frequently analyzed in markov switching framework, we demonstrate that the presence of endogeneity in regime switching is indeed strong and ubiquitous.

Christopoulos Dimitris:

"A Growth Model of Financial Reforms and R&D Investment" by S. Boikos, I. Bournakis and D. Christopoulos

Although in theory the impact of financial reforms on the creation of new ideas can be either positive or negative, a recent paper (Ang (2010),EER) finds enough empirical evidence to support that financial reforms have a negative effect on R&D. In this paper we shed new light on the financial reforms-R&D relationship taking a different route from the standard practice. In particular, we split up the reforms into macro and micro types to test whether their effect is always homogenous across different sectors of the economy. To do so, we develop a three sector model (R&D, industry and services) in which output of the R&D sector is used as input in the industry and services sectors. Certain types of financial reforms affect positively investment in R&D (expenditure) and human capital increasing output in the R&D sector, thus increasing the input available for industry and services while other types of financial reforms cause the opposite effect.

Dendramis Yiannis:

"Shifts in Volatility Driven by Large Stock Market Shocks" (Dendramis Yiannis, Kapetanios George and Tzavalis Elias)

This paper presents an extension of the stochastic volatility model which allows for level shifts in volatility of stock market returns, known as structural breaks. These shifts are endogenously driven by large return shocks (innovations), reflecting large pieces of market news. These shocks are identified from the data as being bigger in absolute terms than the values of two threshold parameters of the model: one for the negative shocks and one for the positive shocks. The model can be employed to investigate different sources of stock market volatility shifts driven by market news, without relying on exogenous information. In addition to this, it has a number of interesting features which enable us to study the effects of large return shocks on future levels of market volatility. The above properties of the model are shown based on a study for the U.S. stock market volatility.
doi:10.1016/j.jedc.2015.03.006

Elias Nikos:

"Modelling Exchange Rate Risk Premium Effects Based on International Affine Term Structure Models" by E. Argyropoulos, Elias N. and Tzavalis E.

This paper proposes an arbitrage free model of the joint behaviour of interest rates and exchange rates. The paper uses the model to predict exchange rates movements and capture exchange rate risk premium effects. The paper finds that the international term structure is spanned by common and local factors. Both of these factors are priced in the world bond markets. The exchange rate premiums mainly In addition, we employ the aformentioned model to capture exchange rate risk premium e§ects and explain the failure of the forward rate to predict future exchange rate changes.

Kapetanios George:

"Level shifts in stock returns driven by large shocks" by Y. Dendramis, G. Kapetanios and E. Tzavalis

This paper employs a parametric model of persistent (level) shifts in the conditional mean of stock market returns which are endogenously driven by large positive or negative return shocks. These shocks can be taken to reflect important market announcements, monetary policy regime changes and/or changes in business conditions affecting stock market. The model assumes that both the timing and size of breaks are stochastic. The last property of the model distinguishes it from other nonlinear models of the literature employed to capture level shifts in stock returns. Implementation of the model to the US stock market indicates that it can successfully capture level shifts in the mean of the aggregate return of this market which follow a cyclical pattern. Most of these shifts are triggered by negative large return shocks. The latter can be of smaller magnitude than that of the positive ones. Finally, the paper shows that the model can be employed to successfully forecast future expected stock returns.

doi: 10.1016/j.jempfin.2014.04.001

Karavias Yiannis:

"Testing for Unit Roots in Panels with Structural Changes, Spatial and Temporal Dependence when the Time Dimension is Finite" by Yiannis Karavias and Elias Tzavalis

Finite T panel data unit root tests allowing for structural breaks, spatial cross section dependence, heteroscedasticity, serial correlation, heterogeneity and non-linear trends are proposed. The structural breaks can be at known or unknown dates. For the latter, analytic probability density functions of the asymptotic distributions of the tests are provided based on a minimum order statistic. The tests can accommodate general forms of spatial dependence for which the spatial weights matrix does not have to be defined due to the utilization of a non-parametric estimator. A set of sufficient conditions which determines admissible deterministic trend functions is also provided. Finally, extensive Monte Carlo experiments show the usefulness of the new tests.

Kazanas Thanasis:

"A nonlinear threshold open economy monetary policy rule and its economic policy implications" by T. Kazanas and E. Tzavalis

This paper estimates an open economy threshold monetary policy rule model, which assumes that, in addition to inflation rate and real output deviations, the short term nominal interest rate of the central bank (CB) of the economy responds to real effective exchange rate deviations from its target level. This is done for Australia, Canada and New Zealand. The results of the paper indicate that the CB reacts to exchange rate movements seems in the low rather than the high inflation regime. This result means that a depreciation in a country's currency will tend to offset decreases in the short term interest rate of the CB due to negative deviations in inflation and real output. A small scale open economy model simulated by the paper examines whether the above offsetting effects of exchange rate deviations on interest rates help to reduce the volatility of real effective exchange rates (the terms of trade) coming from exogenous shocks in domestic real productivity, foreign output and inflation.

Louka Alexandros:

"A Note on the QMLE Limit Theory in the Non-Stationary ARCH(1) model" by S Arvanitis and A. Louka

In this note we extend the standard results for the limit theory of the popular quasi-maximum likelihood estimator (QMLE) in the context of the nonstationary autoregressive conditional heteroskedastic ARCH(1) model by allowing the innovation process not to possess fourth moments. Depending on the value of the index of stability, we either derive alpha-stable weak limits with nonstandard rates or inconsistency and non-tightness. We obtain the limit theory by the derivation of a limit theorem for multiplicative "martingale" transforms with limit mixtures of alpha-stable distributions for any alpha in (0,2].

DOI: 10.1515/jtse-2014-0034

Magdalinos Tassos:

"Robust Econometric Inference in Cointegrated Systems with Multiple Persistence Degrees" by A Magdalinos and P.C.B. Phillips)

A new econometric methodology of inference is developed in systems of cointegrating and predictive regressions with unknown and potentially multiple persistence degrees along equations. It is well known that conventional approaches to estimating cointegrating regressions fail to produce even asymptotically valid inference procedures when the regressors are nearly integrated, and substantial size distortions can occur in econometric testing. The new framework developed here enables a general approach to inference that resolves this difficulty and is robust to the persistence characteristics of the regressors, making it suitable for general practical application. Estimation of systems of time series with mixed I(0), I(1) and all intermediate near I(1) behavior is achieved by means of constructing mildly integrated "IVX" instruments by filtering the system regressors. A mixed Gaussian limit theory is established for the IVX estimator of the full system and a standard chi-squared limit theory is established for the corresponding IVX based Wald test statistic. This new IVX technique eliminates the endogeneity problems of conventional cointegration methods with near integrated regressors, accommodates the presence of stationary regressors and robustifies inference to uncertainty over the nature of the (potentially multiple) integration orders present in the system. The methods are easily implemented, widely applicable and help to alleviate practical concerns about the use of cointegration methodology.

Mcadam Peter:

"Will the True Labor Share Stand Up?" by J. Muck, P. Mcadam, and J. Growiec

We document the consequences of ambiguity in the empirical definition of the macroeconomic labor share. Depending on its definition, the properties of short-run fluctuations, medium-run swings, and long-run stochastic trends of the labor share may vary substantially. Based on a range of historical US time series, we carry

out a systematic exploration of discrepancies between the alternative labor share definitions in terms of the observed stochastic trends, shares of short-, medium- and long-run variation in total volatility of the series, degree of persistence, mean-reversion properties, and susceptibility to structural breaks. We conclude that while short-run properties of the labor shares (represented by cyclical variation below 8 years) are relatively consistent across all definitions, their medium-run swings (8-50 years) and long-run trends (≥50 years) diverge substantially. As important applications, we document the implications of our findings for growth accounting, the identification of short-run responses of the labor share to technology shocks and for estimating inflation.

Rompolis Leonidas:

"Pricing and Hedging Contingent Claims Using Variance and Higher-Order Moment Swaps" by Leonidas Rompolis and Elias Tzavalis

This paper suggests perfect hedging strategies of contingent claims under stochastic volatility and/or random jumps of the underlying asset price. This is done by enlarging the market with appropriate swaps whose payoffs depend on higher-order sample moments of the underlying asset price process. Based on the theoretical results of the paper, and on options and variance swaps rates written on the S&P 500 index, the paper provides clear cut evidence that, first, random jumps are priced in the market and, second, hedging strategies employing variance and higher-order moment swaps considerably improves upon the performance of traditional delta hedging strategies.

Tzavalis Elias:

"Retrieving inflation expectations and risk premia effects from the term structure of interest rates" by E Argyropoulos and E Tzavalis

This paper suggests an empirically attractive Gaussian dynamic term structure model to retrieve estimates of real interest rates and inflation expectations from the nominal term structure of interest rates which are net of inflation risk premium effects. The paper shows that this model is consistent with the data and that time-variation of inflation risk premium and real interest rates can explain the puzzling behavior of the spread between long and short-term nominal interest rates to forecast changes in inflation rates, especially over short-term horizons. The estimates of inflation risk premium effects retrieved by the model tend to be negative and significant, which implies that investors in the bond market require less compensation for holding nominal bonds compared to inflation-indexed bonds. This is more evident during the recent financial crisis.

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2509263

Vrontos Yiannis:

"Bayesian Inference and Variable Selection for predictive Non-Homogeneous Hidden Markov Models" by Koki Konstantina, Meligkotsidou Loukia and Ioannis Vrontos

We consider non-homogeneous Hidden Markov Models (NHMMs) for forecasting univariate and multivariate time series. Extending previous work in the field, we introduce two state NHMMs where the time series are modeled via different predictive regression models for each state, whereas the transition probabilities are modeled via logistic regressions. Given an available set of predictors we allow for model uncertainty, regarding the predictors that affect the series both linearly, that is directly in the mean, and non-linearly, that is in the transition matrix. Inference is made using an MCMC which involves reversible jump steps for predictor selection. Single or multiple steps ahead predictions can be drawn either based on the most probable model or based on a Bayesian Model Averaging (BMA) approach.