

BOOK OF ABSTRACTS

St. Petersburg | 2018

ICNTEF CONFERENCE

**4th INTERNATIONAL CONFERENCE ON NEW TRENDS IN
ECONOMETRICS & FINANCE**

**4th International Conference on New Trends
in Econometrics & Finance**

St. Petersburg | 2018

ICNTEF CONFERENCE

**4th INTERNATIONAL CONFERENCE ON NEW TRENDS IN
ECONOMETRICS & FINANCE**

MAY 11-13 2018

Original Sokos Hotel Olympia Garden – St Petersburg/Russia

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ICNTEF'2018

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Petersburg/Russia

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Conference Chair

Dear Colleagues,

Eastern Mediterranean University Economic Research Center announces the 4th International Conference on New Trends in Econometrics and Finance (ICNTEF'18) which will be held at St. Petersburg, Russia between May 11-12, 2018.

Like the previous three conferences, this conference serves as a forum for academics, practitioners, and central bank and government officials in Europe and all over the world to present and discuss research results about the evolution of the international economics and of the global financial system.

In the conference emphasis will be placed on the developments in emerging market economies, on the fate of the recent trends and of the impact of these developments on international trade, finance and regulation as well as on national economies and financial systems. Theoretical, empirical and policy-oriented papers are all welcome.

The organizers encourage submissions of papers and posters on any topic within the overall theme of the conference and in the following areas in particular:

Econometrics

Economics

Economic Policies

International Economics

Macroeconomics

Microeconomics

Industrial economics and regional economic issues

Finance

Risk Management

Financial Markets

Financial Crises

Quantitative Finance

We also would like to inform you that our official Airline Partner, Turkish Airlines will provide discounted flight tickets. details will be available shortly.

Abstract submission deadline is on the **March 30th, 2018.**

All papers will be published in Conference Proceedings Book

We kindly wait for your participation in our conference in St. Petersburg, to be held in May 11-12, 2018, with the expectations to realize a fruitful discussion ground together with enjoying its social activities and hoping to leaving a trace on your memories.

Hoping to seeing you all in St. Petersburg

With my kindest regards

Prof. Dr. Sevin Ugural

Eastern Mediterranean University, North Cyprus

Conference Chair

10 MAY 2018 THURSDAY

18:00 – 21:00 : REGISTRATION

11 MAY 2018 FRIDAY

08:30 - 17:00 : REGISTRATION
MAIN HALL : GRAND OPENING CEREMONY
09:00 – 09:30

09:30 – 09:40	B R E A K
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HALL 1 / WELCOME SPEECH

09:40 – 10:00	PROF. DR. SEVİN UĞURAL <i>Conference Chair</i> Department of Econometrics, Eastern Mediterranean University
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HALL 1 / KEYNOTE SPEAKER

10:00 – 10:40	PROF. DR. NADEZHDA GRIBKOVA Mathematics and Mechanics Faculty, St.Petersburg State University
Speech Title	Second order asymptotics for intermediate trimmed sums and L-statistics

10:40 – 11:00	C O F F E E / T E A B R E A K
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HALL 1 / SESSION A

SESSION CHAIR	PROF. DR. SELAHATTIN KACIRANLAR	
TIME	PAPER TITLE	PRESENTER / CO AUTHOR
11:00 – 11:20	Testing Performance Of Hybrid Time Series Models on Hourly Electricity Price	Büşra TAŞ , Ceylan YOZGATLIGİL
11:20 – 11:40	Systemically Important Banks of Turkey by Using Quantile Regression: A Conditional Value at Risk (CoVaR) Approach	Zehra CİVAN , Gülhayat GÖLBAŞI ŞİMŞEK, Ebru ÇAĞLAYAN AKAY
11:40 – 12:00	A Bayesian Quantile Time Series Model for Asset Returns	Gelly MITRODIMA , Jim GRIFFIN
12:00 – 12:20	Homothetic Transformation's Influence on Excess of D-optimal Designs	Yuri D. GRIGORIEV, Viatcheslav B. MELAS, Petr V. SHPILEV

12:20 – 12:40	BOUNDS IN COMBINATORIAL CENTRAL LIMIT THEOREM	<u>Andrei FROLOV</u>
12:40 – 13:00	DISCUSSION	

13:00 – 14:00	LUNCH	
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HALL 1 / SESSION B

SESSION CHAIR	PROF. DR. NADEZHDA GRIBKOVA	
TIME	PAPER TITLE	PRESENTER / CO AUTHOR
14:00 – 14:20	A New Modification of Probability Paradox	<u>Jan NOVOTNÝ</u> , Jindriska SVOBODOVÁ
14:20 – 14:40	Fibonacci Sequences of Random Variables	<u>Ismihan BAYRAMOGLU</u>
14:40 – 15:00	On Some Problems of the Optimal Choice of Record Values	<u>Igor V. BELKOV</u> , Valery B. NEVZOROV
15:00 – 15:20	The Joint Distribution of Marginal Records in Extended Bivariate Random Sequences	<u>Gülder KEMALBAY</u>
15:20 – 15:40	Modeling Proportions– Simulation and Empirical Analysis	<u>Janne ENGBLOM</u> , Heli MARJANEN
15:40 – 16:00	DISCUSSION	

16:00 – 16:10	BREAK	
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HALL 1 / WORKSHOP I

16:10 – 16:50	PROF. DR. ISMIHAN BAYRAMOĞLU Department of Mathematics, Izmir University of Economics
Speech Title	Dependency and ageing in reliability and survival analysis

17:00 – 17:45	LIVE CONCERT by CONFERENCE PARTICIPANTS
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17:45 – 19:30	HOTEL DEPARTURE FOR BOAT TOUR (Incl into Registration Fee)
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12 MAY 2018 SATURDAY

08:30 - 17:00 : REGISTRATION

HALL 1 / WORKSHOP II

09:00 – 09:40	PROF. DR. SELAHATTIN KACIRANLAR Department of Statistics, Çukurova University
Speech Title	“Investigation Of Risk Performances Of The New Heterogeneous Estimators”

HALL 1 / SESSION C

SESSION CHAIR	PROF.DR. GÜLHAYAT GÖLBAŞI ŞİMŞEK	
TIME	PAPER TITLE	PRESENTER / CO AUTHOR
09:40 – 10:00	Artificial Mixtures for Maximum Likelihood Estimation and Their Generalizations	Alex TSODIKOV, Lyrica Xiaohong LIU, Carol TSENG
10:00 – 10:20	A New Chaotic Steganography Scheme in Spatial Domain	İdris BAYAM, Mustafa Cem KASAPBAŞI
10:20 – 10:40	Evaluation of the Proposed Recommendation System for a Turkish Construction Retail Company using Collaborative Filtering and Frequent Pattern Mining	Waleed ABDULLAH, Mustafa Cem KASAPBAŞI
10:40 – 11:00	COFFEE / TEA BREAK	

HALL 1 / SESSION D

SESSION CHAIR	PROF. DR. ALEX TSODIKOV	
TIME	PAPER TITLE	PRESENTER / CO AUTHOR
11:00 – 11:20	A Comparison of Bayesian and Classical Approaches to Evaluate the Risk Factors for Chronic Kidney Disease in the Elderly Individuals	Elif Çiğdem ALTUNOK, Zehra EREN, Yaşar KÜÇÜKARDALI
11:20 – 11:40	A Study for Visually Comparison of Two Dendograms Using Causes of Death Statistics of Turkey	Elif Çiğdem ALTUNOK, Edis HACILAR
11:40 – 12:00	Auxiliary Information based Control Charts for	Saddam Akber ABBASI

	Monitoring Process Location	
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HALL 1 / VIDEO SESSION

TIME	PAPER TITLE	PRESENTER / CO AUTHOR
12:20 –12:40	ANALYSIS OF RAYLEIGH EXPONENTIAL DISTRIBUTION USING THE BAYESIAN APPROXIMATION TECHNIQUE	Kahkashan Ateeq, Saima Altaf , Muhammad Aslam
12:40 –13:00	DISCUSSION	

13:00 – 14:00	LUNCH
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HALL 1 / SESSION E

SESSION CHAIR	DR. GELLY MITRODIMA	
TIME	PAPER TITLE	PRESENTER / CO AUTHOR
14:00 – 14:20	Determining the Relationship among Countries' Expenditures in the Certain Areas	Aylin ADEM, <u>Ali ÇOLAK</u> , Metin DAĞDEVİREN
14:20 – 14:40	Modeling and extracting the term structure of interest rates: A unifying framework	<u>Dario PALUMBO</u>
14:40 – 15:00	Economic Growth in Turkey – a Threshold Cointegration Approach	<u>Magdalena OSINSKA</u> , Jerzy BOEHLKE, Maciej GALECKI, Marcin FALDZINSKI
15:00 – 15:20	DISCUSSION	

HALL 1 / POSTER SESSION F

SESSION CHAIR	DR. Kehinde D. ILESANMIA	
TIME	PAPER TITLE	PRESENTER / CO AUTHOR
15:20 – 15:40	Statistical Analysis on the Winning Factor of NBA and How to Make Playoff	Sungin CHO, Yoon Seo JANG, <u>Kee-Hoon KANG</u>

15:40 – 16:00	COFFEE / TEA BREAK
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4th International Conference on New Trends in Econometrics & Finance

DETERMINING THE RELATIONSHIP AMONG COUNTRIES' EXPENDITURES IN THE CERTAIN AREAS	
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MODELING AND EXTRACTING THE TERM STRUCTURE OF INTEREST RATES: A UNIFYING FRAMEWORK	
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DETERMINING THE RELATIONSHIP AMONG COUNTRIES' EXPENDITURES IN THE CERTAIN AREAS

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Abstract

It is a normal result that the economic characteristics of countries change because of globalization. With the globalization, countries' expenditures have affected each other both positive and negative way. In the present work, interactions among the expenditures areas such as safety, health, environmental, business are examined. The definition of the relationship between the amounts that countries spend on these areas; also the direction of this relationship are very important in terms of determining and effective interpretation the economic characteristics of countries. The aim of this paper is to analyse data of countries' economic indicators and to show relations with the help of various hypothesis tests. By using SPSS package program, in addition to descriptive statistics, a number of hypothesis tests tried to determine the relationship among these variables.

Key Words: *Statistic; Economics; Safety; Business*

MODELING AND EXTRACTING THE TERM STRUCTURE OF INTEREST RATES: A UNIFYING FRAMEWORK

*Dario Palumbo*¹

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Abstract

The estimation and forecasting of the term structure of interest rates it has always been an important topic of research due its relevance in many fields, like risk management, monetary policy and bonds trading.

In the non-arbitrageur theory of fixed income products, the price of a coupon bearing bonds traded on the market is uniquely defined at any point in time by: the term structure of interest rates at that point in time, the time to maturity of the bond and its cashflows, which are fixed for the entire life of a bond. Then, in absence of arbitrage, the fluctuations of the bond price over time should only be consequences of the fluctuations of the underlying term structure of interest rates. For this reason it is natural to consider dynamic models for the term structure suitable also for forecasting bond market prices. However current dynamic term structure models are focused only on modeling time series data of term structure curves with no references to their accuracy in forecasting the implied bond prices. Moreover, these term structure time series are neither directly observable on the market nor easily uniquely identifiable. This is mainly because the assumed non-arbitrage relation behind bond prices is rarely verified empirically and often there aren't enough available traded bonds, with different maturities, to bootstrap directly the term structure rates. For these reasons, once dynamic term structure models are used to forecast bond-prices, their accuracy is strongly dependent on the features of the extraction methods used to obtain the term structure time series samples on which they are applied.

The aim of this paper is to assess the impact of incorporating into a unique framework the features of both dynamic and extraction term structure models on the accuracy of bond prices forecasts.

Following on [1], this paper assumes that at each point in time the theoretical traded bond prices are observed with measurement error. The prices are then driven by an underlying unobserved time varying signal $d(\tau)$, the discount function, which is modeled with a dynamic spline function as in [2]. Then these rates evolve over time with a dynamic factor structure.

Through this State Space structure it is possible to use at the same time optimal signal extraction methods (Kalman Filter) to estimate the discount function at every point in time and to forecast both the discount signal and the prices of observed bonds. This model then makes coherent use of all time series and cross-sectional information in the observed bond prices surface while producing forecasts. Moreover, it also achieves dimensional reduction as the cross-sectional dimension of the bond prices maturities becomes large and provides an interpretation of the dynamics of the discount function and term structure. Ultimately its fitting and forecasting performance are assessed against other existing extraction and dynamic term structure models, showing outstanding forecasting improvements at both one and five steps ahead horizon.

Key Words: *Term Structure, Spline Functions, Dynamic Factor Models, Unobserved Components, State Space, Kalman Filter.*

References

[1] Bowsher, C.G., Meeks, R., (2008). *The dynamics of economics functions: modeling and forecasting the yield curve* Working Papers 0804, Federal Reserve Bank of Dallas.

[2] Harvey, A.C., Koopman, S.J. (1993). *Forecasting hourly electricity demand using time-varying splines*. Journal of the American Statistical Association, Vol. 88: 228–1236.

ECONOMIC GROWTH IN TURKEY - A THRESHOLD COINTEGRATION APPROACH

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Abstract

The goal of this paper is to identify the mechanism of the intense economic growth in Turkey observed over the recent three and a half decades. The case of the “Turkish economic miracle” is extremely interesting because of the relationship between economic and political factors influencing the performance of the national economy. In the paper a threshold error correction approach was applied to cover both: several perspectives of the growth dynamics using different thresholds as well as short and long term components. The GDP observed in 1980-2016 has been the subject of econometric modelling. In the long run it was the trend extracted using Hodrick-Prescot filter. The explanatory variables consist of three groups: real variables like investment, FDI, employment, unemployment, total factor productivity and net export; financial variables, i.e. exchange rate TRY/USD, interest rates, GDP deflator, and public debt, and finally external financial aid variables like: loans from the World Bank and from the International Monetary Fund. The analysed time series exhibited strong non-stationarity. Analysis of structural breaks showed that most likely dates for structural breaks in the GDP was in the years: 1992, 2003, 2010. It is, to some extent, in line with two alternative explanations given in [1] and [2]. In the next step the threshold variables became the subject of testing using original and modified Enders and Siklos test. In the first approach ECM and Δ ECM were used as the threshold variables with level zero. On the other hand we proposed using explanatory variables in both: long-term equation and short-term equation as possible thresholds. The level of threshold was the subject of estimation. Best TECM model was estimated with the variable representing external source of financing, i.e. loans from the World Bank lagged by 5 years. The results have been a subject of validation for their robustness using two test statistics; Tsay test and Hansen and Seo test, which confirmed the results.

References

- [1] Dritsas GS, Karatasos K, Panayiotou C (2009) Journal of Chromatography A 1216:8979-8985. (Times New Roman, 12pt, Maximum 6 references)
As Yeldan and Unuvar [Yeldan, E., Unuvar, B., 2015, p. 17]