

**Evangelos Ioannidis,**  
**Associate Professor in Statistics**

(14. September 2023)

### **1. Personal Information**

Born in 1962 in Athens, he studied Mathematics in Germany and has worked at the OECD in France. Since 1998 he lives in Greece and is currently Associate Professor in Statistics at the Athens University for Economics and Business.

### **2. Studies**

He finished in 1980 the German high-school of Athens and obtained a scholarship of the D.A. A. D (German Office for Academic Exchange) for studies in Germany.

**In 1988 he graduated in Mathematics** (minor: Economics) from the University of Heidelberg, Germany. His master-thesis concerned “The test of Kolmogorov-Smirnov based on the (estimated) residuals in a linear regression”, a widely used test the theoretical justification of which was missing. In parallel, he obtained experience in practical data analysis working during 1986 as an **assistant at the “Institute for Documentation and Medical Statistics”** of the University of Heidelberg, where he conducted statistical studies.

**In 1993 he obtained his Ph.D. in Mathematics (with a thesis in Statistics)** from the University of Heidelberg. The subject of his dissertation was “The asymptotic behaviour of the Capon–estimator”, a non-parametric estimator of the spectral density of a stationary time-series. While working on his Ph.D. thesis, he was employed as researcher at the University of Heidelberg (SFB 123: Stochastic mathematical Models) (1987-1991). He was later invited as a researcher at the Statistics-laboratory of the University Paris-Sud, Orsay, with a scholarship of the state of Baden-Wuerttemberg, Germany (1991-1993). In Paris he also participated at two courses of Econometrics at the "Ecole Nationale de la Statistique et de l'Administration Economique" (E.N.S.A.E.). In the frame of his dissertation he developed SPECSIM, a *simulation programm* that visualises the statistical behaviour of spectral analysis methods. It was *programmed in object-oriented Pascal* and was attributed a certificate as "worthy of recognition" in a contest with entries from various universities.

### **3. Professional experience**

After finishing his Ph.D. he was employed for six months as **Statistician at CCF-Elysees Bourse**, an affiliated company of the Bank "Credit Commercial de France", where he was responsible for the testing of a statistical model on stocks' profitability forecasting and the elaboration of alternative models.

From 1994 he was employed as an **Auxiliary Statistician** and then as a **Consultant at the Organisation for Economic Co-operation and Development (OECD)**, at the Economic Analysis and Statistics Division of the Directorate for Science, Technology and Industry. He participated at various econometric studies concerning a) the cyclicality of R&D expenditures and particularly the determinants of their levelling-off in the 90's and b) the impact of technology --and especially technology diffusion--on competitiveness and on productivity growth at the industry level. He also collaborated at various publications ("Industrial Policy Annual Review 1994", "Technology and Industrial Performance", "Scoreboard of indicators") and at the development and publication of the international OECD Input-Output database ("The OECD Input-Output Database", 1995).

In 1997 he became a **staff member of the OECD (Administrator, A3)** at the Statistics and Indicators Division of the Directorate for Employment, Education, Labour and Social Affairs. He was responsible for the Harmonisation of Training-Statistics of member countries and for the development and publication of OECD's Social Expenditure database (SOCX).

In 1999, he returned to Greece and worked as a **researcher at the National Labour Institute** where he was concerned with the analysis of employment growth by workers' skills and technological intensity of branches. In parallel he taught Statistics at the Athens University for Economics and Business.

In September 1999 he became a **staff-member (Lecturer) in the Statistics Departments of the Athens University for Economics and Business**, while in February 2007 he became **Assistant Professor at the same Department**, a position for which he obtained tenure in January 2011.

In September 2023 he became **Associate Professor in the Statistics Departments of the School of Information Sciences and Technology of the Athens University for Economics and Business**.

During 2012-2014 he was involved as a consultant and **co-authored several deliverables of three methodological projects**, which was undertaken by Agilis SA (Athens, Greece) and contracted by the European Commission (Eurostat). The projects were entitled "Development of methods and scenarios for an integrated system of European Social Surveys", as well as two "Methodological Helpdesk Support and Communication Projects. The methodology developed became *a read paper in the Journal of Official Statistics* (see 5.a.10, below).

During 2015-2016 he was involved as a consultant and **co-authored several deliverables of a methodological project**, which was undertaken by Quantos (Athens, Greece) and contracted by the European Commission (Eurostat). The project was entitled "Integrated System of European Social surveys - Generalization of the existing framework to cover longitudinal and other complex aspects, Task 1". For this project *he also developed code in R*, which conducted in the optimization for the construction of the instruments for the Integrated System of Social surveys.

During 2021-2022 he was involved as a consultant in a project of the OECD which concerned the impact of the Covid-19 crisis on the relation of the GDP to Composite Leading Indicators and their decomposition into trend, cyclical and irregular component.

#### **4. Current research interests**

His current research interests concern time-series analysis and, more specifically, spectral and cross-spectral analysis, seasonal decomposition, co-integration analysis, bootstrap application in time series analysis and their application in the analysis of economic data. He is also interested in Official Statistics and, more specifically, in survey sampling.

#### **5. Publications**

##### **a) in international magazines**

1. Ioannidis, E., (1994): "On the Behaviour of a Capon-Type Spectral Density Estimator". *The Annals of Statistics*, vol. 22, No 4, pp. 2089-2114.

2. Sakurai, N., Papaconstantinou, G., Ioannidis, E., (1997): "The Impact of R&D and Technology Diffusion on Productivity Growth: Evidence from 10 OECD Countries in the 1970's and 1980's". *Economic Systems Research*, vol. 9, No 1. (Special Issue on "International R&D Spillovers"), p. 81-109.
3. Ioannidis, E. and Schreyer P., (1997): "Technology and non-Technology Determinants of Export Share Growth". *OECD Economic Studies*, vol. 28, p. 169-205.
4. Guellec, D. and Ioannidis, E., (1997): "Causes of Fluctuations in R&D Expenditures: A Quantative Analysis". *OECD Economic Studies*, vol. 29, p. 123-138.
5. Ioannidis, E. and Chronis, G. (2005): "Extreme Spectra of VAR Models and Orders of Near-Cointegration", *Journal of Time Series Analysis*, vol. 26, p. 399-421.
6. Ioannidis, E. (2005): "Residual-based block-bootstrap unit root testing in the presence of trend breaks", *Econometrics Journal*, vol. 8, p. 323-351.
7. Ioannidis, E. (2007): "Spectra of Bivariate VAR(p) Models", *Journal of Statistical Planning and Inference*, vol.137, p. 554-566.
8. Ioannidis, E. (2010): "Unit-root testing: on the asymptotic equivalence of Dickey-Fuller with the log-log slope of a fitted autoregressive spectrum", *Journal of Time Series Analysis*, vol. 31, p. 153-166.
9. Ioannidis, E. (2011): "Akaike's information criterion correction for the least-squares autoregressive spectral estimator", *Journal of Time Series Analysis*, vol. 32, p. 618-630.
10. Ioannidis, E., Merkouris, T., Zhang, L.C., Karlberg, M., Petrakos, M., Reis, F., Stavropoulos, P. (2016): "On a Modular Approach to the Design of Integrated Social Surveys", *Journal of Official Statistics*, vol. 32, p. 1-28 (with discussion).
11. Dellaportas, P., Ioannidis, E., Kotsogiannis, C. (2021): "Sample size determination for risk-based tax auditing", *JRSS Series A*, Vol 184, Issue 2, p. 479-493.
12. Ioannidis, E. (2022): "A new non-parametric cross-spectrum estimator", *Journal of Time Series Analysis*, vol. 43, p. 808-827.

#### **b) Participation at conferences**

1. "Workshop on Multivariate Time Series Analysis" (Heidelberg, Germany, February 25-28, 2004), organised by: R. Dahlhaus. Postertitle: "Extreme Spectra of VAR Models and Orders of Near-cointegration".
2. International Workshop on "Recent Advances in Time Series Analysis" (Protaras, Cyprus, June 9-12, 2004), organised by: Efstathios Paparoditis (Cyprus), Theofanis Sapatinas (Cyprus), Rainer Von Sachs (Belgium), sponsored by: [University of Cyprus](#). Postertitle: "Spectra of Bivariate VAR(p) Models".
3. "2005 NSF/NBER Time Series Conference", (Heidelberg, Germany, Sept. 22-24, 2005), organised by: R. Dahlhaus. Postertitle: "Spectra of Bivariate VAR(p) Models".

4. "EC2 meeting 2008: Recent Advances in Econometric Time Series", (Faro, Portugal, December 15-17, 2007. Postertitle: "Unit Root Testing: On the Asymptotic Equivalence of Dickey-Fuller with the log-log Slope of a Fitted AR Spectrum").
5. International Workshop on "Recent Advances in Time Series Analysis" (Protaras, Cyprus, June 8-11, 2008). Postertitle: "Unit Root Testing: On the Asymptotic Equivalence of Dickey-Fuller with the log-log Slope of a Fitted AR Spectrum".

**c) other publications**

1. Ioannidis, E., (1987): "The test of Kolmogorov-Smirnov based on the (estimated) residuals in a linear regression". Master-thesis.
2. Ioannidis, E., (1993): "On the Asymptotic Behaviour of the Capon Estimator". Ph.D. thesis, published by Verlag Shaker, Aachen.
3. Ioannidis, E., (1994): "Predicting the Future Alpha of Stocks: a Comparison of Different Methods". *CCF-Elysees Bourse Reports*.
4. Sakurai, N., Ioannidis, E. and Papaconstantinou, G., (1996): "The Impact of R&D and Technology Diffusion on Productivity Growth: Evidence from 10 OECD Countries in the 1970's and 1980's". STI Working Papers, OECD, Paris, France.
5. Ioannidis, E., (1999): "Technology, Skills and Employment in Greece: Structure and Trends". Working Papers of the National Labour Institute, Greece.