

THE REGIONAL QUANTITATIVE ANALYSIS GROUP

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The «Grup d'Anàlisi Quantitativa Regional» (AQR) (Regional Quantitative Analysis Group) co-directed by Dr. Manuel Artís and Dr. Jordi Suriñach, is a research unit of the University of Barcelona, and is linked to the Department of Econometrics, Statistics and Spanish Economics of the same University. With more than thirty researchers and twenty years of experience, it has been recognized by the *Generalitat de Catalunya* (the regional government) as a Quality Research Group. Since 1987, the AQR Group has been working for many public institutions and private companies.

The group's main research activities are focused on urban and regional economic analysis and the realization of macroeconomic forecasts. Currently, the main research areas are as follows:

- **Regional and urban economic analysis:** The concept of functional areas is linked to the interrelations between neighbouring municipalities, due to job or study commuting, or due to the fact these municipalities share services. These aggregations are very important when urban studies are carried out, because they continually take into account the rest of the municipalities which are part of their urban system. Commuting is a result of many municipal necessities, such as public transport, traffic, infrastructures and common policies for towns in the same urban system.
- **Economic growth factor and regional convergence:** This line of research is focused on the analysis of the process of regional convergence in European regions, industry location factors and the effect of production factors, such as public and private capital, technology or infrastructure on the economic growth. In addition, much work has been done on externalities across economies using spatial econometrics, and macroeconomic implications of EMU at regional level.
- **Statistical and econometric methodology:** In this mostly theoretical area, we try to solve statistical and econometric problems related to the stationary, temporary aggregation and crossing of economic variables, including research on the real cycles, dynamic modelling, filters, seasonality, long memory, spatial econometrics and cyclical tendencies.
- **Drawing up, updating and treatment of series:** To complete historical series about consumption, labour market, prices, industrial production and other related themes, we need a strict levelling down process of database and comprehensive research on existing information. In addition, the treatment of the data series in-

cludes enrolment, interpolations, treatment of outliers, stationary analysis, cyclical tendency, connection of the series and rationalisation of the variables.

- **Design, execution and exploitation of surveys:** The complete process is carried out, according to the technique used, to reach the main aim of the survey. This has allowed us to carry out important surveys such as one related to the degree of preparation of firms in the years 1999, 2000 and 2001 before the introduction of the Euro, in sectors such as tourism, industry and finance.
- **Macroeconomic forecasts and estimations:** The expert's capacity to make economic forecasts and estimations is very helpful to the agents to take good decisions about economic measures and drawing up budgets and, moreover, the information given could help analysts, businessmen etc. In this field there is a great deal of work done with the collaboration of several institutions.
- **Cost-benefit valuation of economic impact:** The cost-benefit valuation has been applied in three major areas: infrastructures, TAV and health.
- **Synthetic indicators of living standards and economic activity:** These synthetic indicators have great advantages: they concentrate a lot of information in only one variable, and they also permit us to carry out both cross-sectional and longitudinal comparisons. Quality of life indices at the municipal level and the urban system level have been calculated, based on a large number of statistics and local data from different areas, such as car parking, per capita income, cultural infrastructures, health and education, financial situation of the town council, housing, and unemployment. All these indicators are usually published in statistical yearbooks or similar publications, to show a global view of the progress of the regional, municipal, or local economy.
- **Strategic plans:** Strategic plans are a complete and multidisciplinary view about the actual situation of the town or the city in study, focusing on its weaknesses, its strong points and its potentialities. They consider especially the social and economic part: economic activity, real state market, unemployment, firms, sector activity distribution, supply and demand of land, housing quality, housing and the land prices, and population-housing adaptation.
- **Economics reports:** Several reports about punctual subjects related with economy have been carried out. This research is possible thanks to a number of EU Projects and some private contracts, such as:
 - «Small and Medium Enterprises, Economic Development and Regional Convergence in Europe». Cost Action 17 Social Sciences. European Commission (2000-2004).
 - «European Forecast Network». European Commission (2001-2002).

- «Estudi de l'evolució del trànsit a la ciutat de Barcelona» (Study of transit evolution in Barcelona city). **Ajuntament de Barcelona** (1997-2003).
- «Estimació de a curt i a mig termini de l'activitat econòmica a Catalunya» (Medium and short term estimation of catalan economic activities). **Cambra de Comerç de Barcelona** (COCINB) (1992-2001).
- «Enquesta sobre la Introducció de l'Euro a les empreses catalanes» (Survey about Euro introduction to catalan firms). **Departament d'Economia i Finances de la Generalitat de Catalunya i el CIDEM** (1999-2001).
- «Pla de Desenvolupament econòmic i social. Pla Estratègic» (Economic and social development plan. Strategic plan). **Ajuntament de Figueres** (2000).
- «Anàlisi de l'evolució macroeconòmica de les Illes Balears i per Illes» (Macroeconomic analysis of the Balearic Islands and of each Island). **Govern Balear** (1999-2002).
- «Estimació de magnituds econòmiques als països de la zona Euro» (Estimation of economic magnitudes for the Euro zone countries). **La Caixa d'Estalvis i Pensions de Barcelona "La Caixa"** (1999).
- «Construcció d'un indicador sintètic de Qualitat de vida i d'Activitat Econòmica» (Drawing up a synthetic indicators of life quality and economic activity). **Diputació de Barcelona** (1999).

Finally some selected publications from the last five years are listed, which reflect the importance and quality of these research lines:

Economic and policy analysis at the European level

Moreno, R., López-Bazo, E. and Artís, M. (2002). «Public infrastructure and the performance of manufactures: short and long run effects», *Regional Science and Urban Economics*, 32, 97-121.

Ramos, R., Clar, M. and Suriñach, J. (2001). «Comercio y variabilidad del tipo de cambio: Evidencia para los países de la Unión Europea», *ICE. Revista de Economía. Consejo Superior de Investigaciones Científicas*, 794, 77-89.

Ramos, R. (2000). «Macroeconomic implications of EMU: The Catalonian case». This work was awarded with the first prize of the university contest «L'adaptació de l'economia catalana a la moneda única europea», organized by the CIDEM» (Generalitat de Catalunya) in co-operation with the «Quatre Moteurs pour l'Europe».

Ramos, R., Clar, M. and Suriñach, J. (1999). «Specialisation in Europe and asymmetric shocks: potential risks of EMU», en M. M. Fischer y P. Nijkamp (eds.), *Spatial Dynamics of European Integration. Political and Regional Issues at the Turn of the Millennium*, Springer-Verlag, Berlin, 63-93.

- López-Bazo, E., Vayà, E., Mora, A. and Suriñach, J. (1999). «Regional economic dynamics and convergence in the European Union», *Annals of Regional Science*, 33, 343-370.
- Sanromá, E. and Ramos, R. (1999). «Interprovincial Wage Differences in Spain. A microdata Analysis», *Jahrbuch fuer Regionalwissenschaft-Review of Regional Science Research*, 19, 35-54.
- Moreno, R., Artís, M., López-Bazo, E. and Suriñach, J. (1999). «Evidence on the complex link between infrastructures and regional growth», *International Journal of Development Planning Literature*, 12, 81-108.
- Sanromá, E. and Ramos, R. (1998). «El mercado de trabajo español en la Unión Monetaria. Flexibilidad de salarios y política laboral», in J. C. Jimenez (ed.): *La economía española ante el Euro*, Ed. Civitas, Madrid, 133-176. (The Spanish labour market and the Monetary Union. Wage flexibility and labour market policies).

Forecasting the economic evolution of European countries

- European Forecasting Network (2002). «Report on the Euro-Area Outlook. Autumn 2002», research report for the *European Commission*, EFN project.
- European Forecasting Network (2002). «Report on the Euro-Area Outlook. Spring 2002», research report for the *European Commission*, EFN project.
- Artís, M., Clar, M., Ramos, R., Sansó, A. and Suriñach, J. (2000). «Previsions económiques per als països de la zona euro», Research report for “*La Caixa d'Estalvis i Pensions de Barcelona*”. (Economic forecasts for the Euro Zone countries).

Forecasting at the regional level and conjunctural analysis

- Clar, M. and Ramos, R. (several years). «Situación actual y perspectivas de las regiones de España-Cataluña», *Jornadas HISPALINK*, Instituto L. R. Klein y Consejo Superior de Cámaras de Comercio, Industria y Navegación de España, Madrid. (Present situation and economic perspectives of Spanish regions).
- Clar, M. and Ramos, R. (2001). «Un modelo econométrico para predecir el VAB subsectorial de la economía catalana», in *Diez Años de análisis regional: el proyecto Hispalink*, Madrid, 63-75. Depósito legal M-14950-2001. (An Econometric model to forecast the subsectoral GAV of Catalan Economy).
- Clar, M., Ramos, R. and Suriñach, J. (2001). «A state-space approach for measuring regional manufacturing production indices», *Regional Science*, 80, 357-369.

Clar, M., Ramos, R. and Suriñach, J. (2000). «Avantatges i inconvenients de la metodologia de l'INE per a elaborar indicadors de la producció industrial per a les regions espanyoles», *Qüestió*, 24, 151-186. (Advantages and inconvenients of INE's methodology to elaborate industrial production indices for the Spanish regions).

Forecasting: methodological issues

Ramos, R., Clar, M. and Suriñach, J. (2000). «Comparación de la capacidad predictiva de los modelos de coeficientes fijos frente a variables en los modelos econométricos regionales: un análisis para Cataluña», *Estudios de Economía Aplicada*, 15, 125-162. (Comparison of the predictive accuracy of fixed coefficients models versus variable coefficients models in regional econometric models: an analysis for Catalonia).

Artís, M., Clar, M., Ramos, R., Sansó, A. and Suriñach, J. (1999). «Metodología per a l'anàlisi de les previsions econòmiques dels països de la zona euro», Research report for "La Caixa d'Estalvis i Pensions de Barcelona". (Methodology for the analysis of economic forecasts in the Euro zone countries).

Theoretical articles

Del Barrio, T., Pons, E. and Suriñach, J. (2002). «The effects of working with seasonally adjusted data when testing for unit root». *Economics Letters*, 75, 249-256.

Barrio, T., Sur, A. and Suriñach, J. (2001). «Comportamiento de los contrastes ADF, PP y KPSS al trabajar con series ajustadas de estacionalidad», *Qüestió*, 25, 19-46.

Carrión, J. Ll., Sansó, A. and Artís, M. (2001). «Unit root and stationarity tests' wedging». *Economic Letters*, 70, 1-8.

Sansó, A., Artís, M. and Suriñach, J. (1999). «Comportamiento en muestra finita de los contrastes de integrabilidad estacional para datos mensuales: Un ejercicio de simulación». *Revista Estadística Española*, 39, 141-184.

Carrión, J. Ll., Sansó, A. and Artís, M. (1999). «Response surfaces estimates for the Dickey-Fuller unit root test with structural breaks». *Economic Letters*, 63, 279-283.

Sansó, A., Artís, M. and Suriñach, J. (1998). «Una nota sobre el contraste de relaciones de cointegración entre índices de precios». *Qüestió*, 22, 83-102.

Other articles

Del Barrio, T., López-Bazo, E. and Serrano, G. (2002). «New evidence on international R&D spillovers, human capital and productivity in the OECD». *Economics Letters*, 77, 41-45.

- Artís, M., Carrión, J. L., Costa, A. and Suriñach, J. (2002). «Smoothing the Catalan tourism micro-data time series». *Qüestió*, 26, 197-211.
- López-Bazo, E., del Barrio, T. and Artís, M. (2002). «The regional distribution of Spanish unemployment. A spatial analysis». *Papers in Regional Science*, 81, 365-389.
- López-Bazo, E., del Barrio, T. and Artís, M. (2002). «La distribución provincial del desempleo en España». *Papeles de Economía*, 93, 195-208.
- Artís, M., Romaní, J. and Suriñach, J. (2000). «Determinants of individual commuting in Catalonia, 1986-1991». *Urban Studies*, 37, 1431-1450.