MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE ABREVIADO (CVA)

***IMPORTANT* – The Curriculum Vitae <u>cannot exceed 4 pages</u>. Instructions to fill this document are available in the website.**

Part A. PERSONAL INFORMATION

First name	Ainhoa		
Family name	Zarraga		
e-mail	ainhoa.zarraga@ehu.eus		
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-0862-5630	

(*) Mandatory

A.1. Current position

Position	Associate Professor
Initial date	31-01-2003
Institution	University of the Basque Country, UPV/EHU
Department/Center	Quantitative Methods
Key words	Time Series, applied econometrics, energy markets

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Economics	University of the Basque Country, UPV/EHU	1999
Master in Econometrics	University of Essex	1994
Bachelor's degree in Economics and Business	University of the Basque Country, UPV/EHU	1993

(Include all the necessary rows)

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

Her research career begins with the study of different econometric methodologies applied in the area of finance both nationally and internationally. The research focuses on the study of the formation of the asset price process in order to better understand the functioning of the financial markets. A second line of research analyzes and compares different methods of estimating market betas, given their importance in various financial applications such as asset pricing, corporate finance and risk management.

Her most recent research activity focuses on the study of the Spanish and international electricity markets, mainly the modeling and forecasting of prices as well as the effects of regulatory changes on them. Volatility transmissions between markets in different European countries are also analyzed within the framework of the creation of a single European electricity market.

She has published her research in top economics and energy journals, with a total of 12 publications in the JCR index and more than 600 citations in Google scholar (h=14). One of her publications has more than 200 citations. That publication analyzes the causal relationship between electricity consumption and economic growth in 12 European countries using a dynamic panel data.

She has presented her research at prestigious national and international conferences in the area (over 20). In addition, the research related to modeling and forecasting prices in electricity markets has had media coverage (written press, radio and television). Throughout her research career she has received funding through projects of the Ministry and the Basque Government.

She has supervised numerous undergraduate and master's degree dissertations. She is a member of the Academic Committee of the inter-university master's degree in Banking and Quantitative Finance. She has co-directed an international doctoral thesis defended in 2020, whose author is currently an associate professor at the University of the Basque Country (UPV/EHU). She is currently co-directing a PhD thesis with a first chapter published in a JCR journal.

She participates as an evaluator of research projects for the National Science Center of Poland (2018, 2021, 2022). She is also reviewer for top journals in economics and energy. She has participated in the organization of an international workshop on Forecasting in Electricity Markets (2019).

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications

- Ciarreta, A.; Muniain, P. and Zarraga, A. (2022). "Do jumps and cojumps matter for electricity price forecasting? Evidence from the German-Austrian day-ahead market". **Electric Power Systems Research**, vol. 212, 108144. doi: 10.1016/j.epsr.2022.108144
- Chanatásig-Niza E.; Ciarreta, A. and Zarraga, A. (2022). "A volatility spillover analysis with realized semi(co)variances in Australian electricity markets". **Energy Economics**, vol. 111, 107066. doi: 10.1016/j.eneco.2022.106076
- Ciarreta, A.; Pizarro-Irizar, C. and Zarraga, A. (2020). "Renewable energy regulation and structural breaks: An empirical analysis of Spanish electricity price volatility". **Energy Economics**, vol. 88, pp. 1-11. doi: 10.1016/j.eneco.2020.104749
- Ciarreta, A.; Muniain, P. and Zarraga, A. (2020). Realized Volatility and Jump Testing in the Japanese Electricity Spot Market. **Empirical Economics**, vol. 58, pp. 1143-1166. doi: 10.1007/s00181-018-1577-6
- Gómez, M.; Ciarreta, A. and Zarraga, A. (2018) "Linear and Nonlinear Causality between Energy Consumption and Economic Growth: The Case of Mexico 1965-2014", **Energies**, vol. 11, pp. 1-15. doi: 10.3390/en11040784
- Ciarreta, A.; Muniain, P. and Zarraga, A. (2017) "Modeling and forecasting realized volatility in German-Austrian continuous intraday electricity prices", **Journal of Forecasting**, vol. 36, pp. 680-690. doi: 10.1002/for.2463
- Ciarreta, A. and Zarraga, A. (2016) "Modeling realized volatility on the Spanish intra-day electricity market", **Energy Economics**, vol. 58, pp. 152-163. doi: 10.1016/j.eneco.2016.06.015
- Ciarreta, A. and Zarraga, A. (2015) "Analysis of mean and volatility price transmissions in the MIBEL and EPEX electricity spot markets", **Energy Journal**, vol. 36, pp. 41-60. doi: 10.5547/01956574.36.4.acia
- Nieto, B., Orbe, S. and Zarraga, A. (2014) "Time-Varying Market Beta: Does the estimation methodology matter?", **Statistics and Operations Research Transactions** (SORT), vol. 38, pp. 13-42. doi: 10.2436/20.8080.02.2
- Ciarreta, A. and Zarraga, A. (2010) "Economic growth-electricity consumption causality in 12 European countries: A dynamic panel data approach", **Energy Policy**, vol. 38, pp. 3790-3796. doi: org/10.1016/j.enpol.2010.02.058

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)
- Chanatásig-Niza, E., Ciarreta, A., Pizarro-Irizar, C. and Zarraga, A. "Understanding volatility spillovers between European electricity spot markets". Oral presentation. 16th International Conference on Computational and Financial Econometrics (CFE 2022). London (United Kingdom), December 17-19, 2022.
- Chanatásig-Niza, E., Ciarreta, A., Pizarro-Irizar, C. and Zarraga, A. "Understanding volatility spillovers between European electricity spot markets". Oral presentation. XVII Congreso de la

Asociación Española para la Economía Energética (AEEE 2022). Alcalá de Henares (Spain), May 25-27, 2022.
- Chanatásig-Niza, E., Ciarreta, A. and Zarraga, A. "A volatility spillover analysis with realized semi(co)variances in Australian electricity markets". Oral presentation. 15th International Conference on Computational and Financial Econometrics (CFE 2021). London (United Kingdom), December 18-20, 2021.
- Ciarreta, A., Pizarro-Irizar, C. and Zarraga, A. "Structural breaks in the Spanish electricity prices: the role of renewable energy". Oral presentation. XIV Congreso de la Asociación Española para la Economía Energética (AEEE). A Coruña (Spain), January 30-February 1, 2019.
- Ciarreta, A., Pizarro-Irizar, C. and Zarraga, A. "Structural breaks in the Spanish electricity prices: the role of renewable energy". Oral presentation. 41st International Association for Energy Economics (IAEE) International Conference. Groningen (Netherlands), June 10-13, 2018.
- Ciarreta, A., Muniain, P. and Zarraga, A. "Modelling and forecasting realised volatility in German-Austrian continuous intraday electricity prices". Oral presentation. 10th International Conference on Computational and Financial Econometrics (CFE 2016). Sevilla (Spain), December 9-11, 2016.
- Ciarreta, A. and Zarraga, A. "Volatility transmissions in the Spanish intra-day electricity market". Oral presentation. 12th International Conference on the European Energy Market (EEM15). Lisbon (Portugal), May 20-22, 2015.
- Ciarreta, A. and Zarraga, A. "Volatility transmissions in the Spanish intra-day electricity market". Oral presentation. 10th Congress of the Spanish Association of Energy Economics (AEEE). Santa Cruz de Tenerife (Spain), February 5-6, 2015.
- Ciarreta, A. and Zarraga, A. "Modelling price and volatility in the Iberian day-ahead electricity market". Invited conference. 6th CSDA International Conference on Computational and Financial Econometrics. Oviedo (Spain), December 1-3, 2012.
- Ciarreta, A. and Zarraga, A. "Economic Growth and Electricity Consumption in 12 European Countries: A Causality Analysis Using Panel Data". Poster. 6th International Conference on the European Energy Market (EEM 09). Lovaine (Belgium), May 27-29, 2009.

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

- Ref.: IT1461-22. Title: BIRTE, BILBAO RESEARCH TEAM IN ECONOMICS.
Funding entity: Gobierno Vasco.
Principal investigator: Ciarreta, A. Affiliation entity: UPV/EHU
Start date: 01/01/2022 Completion date: 31/12/2025
Amount: 271.000€ Type of participation: Researcher
- Ref.: PID2019-108718GB-I00. Title: Mercados y Evaluación de Políticas.
Funding entity: Ministerio de Economía y Competitividad - MINECO.
Principal investigator: Ciarreta, A. Affiliation entity: UPV/EHU
Start date: 01/06/2020 Completion date: 31/05/2023
Amount: 28.556€ Type of participation: Researcher
- Ref.: IT1336-19. Title: BiRTE, BILBAO RESEARCH TEAM IN ECONOMICS.
Funding entity: Gobierno Vasco.
Principal investigator: Ciarreta, A. Affiliation entity: UPV/EHU
Start date: 01/01/2019 Completion date: 31/12/2021
Amount: 192.200€ Type of participation: Researcher
- Ref.: ECO2015-64467-R. Title: Redes, innovación, cultura, empleo y crecimiento.
Funding entity: Ministerio de Economía y Competitividad y Fondo Europeo de Desarrollo Regional.
Principal investigator: Gardeazabal, F. J. Affiliation entity: UPV/EHU
Start date: 01/01/2016 Completion date: 31/12/2019
Amount: 101.398€ Type of participation: Researcher
- Ref.: ECO2012-35820. Title: Avances en economía del comportamiento y redes, género y crecimiento.
Funding entity: Ministerio de Economía y Competitividad.
Principal investigator: Espinosa, M. P. Affiliation entity: UPV/EHU

Start date: 01/02/2013 Completion date: 31/12/2015
Amount: 102.375€ Type of participation: Researcher

- Ref.: IT783-13. Title: Mercados energéticos/Redes/Análisis de conflictos/Economía Política e Industrial.
Funding entity: Gobierno Vasco.
Principal investigator: Gardeazabal, F.J. Affiliation entity: UPV/EHU
Start date: 01/01/2013 Completion date: 31/12/2018
Amount: 196.798€ Type of participation: Researcher

- Ref.: ECO2009-09120. Title: Economía del comportamiento, redes y competencia.
Funding entity: Ministerio de Ciencia e Innovación.
Principal investigator: Gardeazabal, F.J. Affiliation entity: UPV/EHU
Start date: 01/01/2010 Completion date: 31/12/2012
Amount: 141.933,00€ Type of participation: Researcher

- Ref.: IT-313-07. Title: Problemas de organización industrial y de economía experimental.
Funding entity: Gobierno Vasco.
Principal investigator: Usategui, J. M. Affiliation entity: UPV/EHU
Start date: 01/01/2007 Completion date: 31/12/2012
Amount: 353.916,74€ Type of participation: Researcher

- Ref.: SEJ2006-06309. Title: Análisis de decisiones estratégicas y de formación de grupos en diversos entornos económicos
Funding entity: Ministerio de Educación y Ciencia.
Principal investigator: Espinosa, M. P. Affiliation entity: UPV/EHU
Start date: 01/10/2006 Completion date: 31/12/2009
Amount: 139.755,00€ Type of participation: Researcher

- Ref.: SEJ2004-04811/ECON. Title: El mercado de activos y la actividad económica real: fundamentos no observables.
Funding entity: Ministerio de Ciencia y Tecnología.
Principal investigator: Regúlez, M. Affiliation entity: UPV/EHU
Start date: 13/12/2004 Completion date: 12/12/2007
Amount: 42.320,00€ Type of participation: Researcher