

Referencias bibliográficas

- Abdi H. y Williams L.J. (2010). Principal component analysis. *Wiley interdisciplinary reviews: computational statistics* 2 (4): 433-459.
- Adamek J. (1994). Fusion: combining data from separate sources. *Marketing Research* 6 (3): 48.
- Agostini C. y Palmucci G. (2017). Capitalización anticipada del metro de Santiago en el precio de las viviendas. *El Trimestre Económico* 75: 403-431.
- Alba E. de (1988). Disaggregation and forecasting: A Bayesian analysis. *Journal of Business & Economic Statistics* 6 (2): 197-206.
- Alexander Dietzel M., Braun N. y Schäfers W. (2014). Sentiment-based commercial real estate forecasting with Google search volume data. *Journal of Property Investment & Finance* 32 (6): 540-569.
- Alfaro Navarro J.-L., Cano E., Alfaro Cortés E., Garcíea N., Gámez M. y Larraz B. (2020). A fully automated adjustment of ensemble methods in machine learning for modeling complex real estate systems. *Complexity* 2020.
- Alonso W. y others (1964). Location and land use. Toward a general theory of land rent. *Location and land use. Toward a general theory of land rent*.
- Ambrose B.W., Eichholtz P. y Lindenthal T. (2013). House prices and fundamentals: 355 years of evidence. *Journal of Money, Credit and Banking* 45 (2-3): 477-491.
- Andridge R.R. y Little R.J. (2010). A review of hot deck imputation for survey non-response. *International statistical review* 78 (1): 40-64.
- Anenberg E. y Laufer S. (2017). A more timely house price index. *Review of Economics and Statistics* 99 (4): 722-734.
- Anscombe F.J. (1960). Rejection of outliers. *Technometrics* 2 (2): 123-146.
- Anselin L. (2002). Under the hood issues in the specification and interpretation of spatial regression models. *Agricultural economics* 27 (3): 247-267.
- Anselin L. y Griffith D.A. (1988). Do spatial effects really matter in regression analysis? *Papers in Regional Science* 65 (1): 11-34.
- Anselin L. y Rey S.J. (2014). *Modern spatial econometrics in practice: A guide to GeoDa, GeoDaSpace and PySAL*. GeoDa Press LLC.
- Antipov E.A. y Pokryshevskaya E.B. (2012). Mass appraisal of residential

- apartments: An application of Random forest for valuation and a CART-based approach for model diagnostics. *Expert Systems with Applications* 39 (2): 1772-1778.
- Anundsen A.K., Gerdrup K., Hansen F. y Kragh-Sørensen K. (2016). Bubbles and crises: The role of house prices and credit. *Journal of Applied Econometrics* 31 (7): 1291-1311.
- Ardila D., Ahmed A. y Sornette D. (2021). Comparing ask and transaction prices in the Swiss housing market. *Quantitative Finance and Economics* 5 (1): 67-93.
- Arlot S. y Celisse A. (2010). A survey of cross-validation procedures for model selection.
- Arnott R. (2003). Com Tenancy rent control. *Swedish economic policy review* 10 (1): 89-134.
- Arnott R. y Shevyakhova E. (2014). Tenancy rent control and credible commitment in maintenance. *Regional Science and Urban Economics* 47: 72-85.
- Arribas-Bel D. y Fleischmann M. (2022). Spatial Signatures - Understanding (urban) spaces through form and function. *Habitat International* 128: 102641. <https://doi.org/https://doi.org/10.1016/j.habitatint.2022.102641>.
- Arruñada B. (2022). Comentario a las nuevas regulaciones del alquiler. FEDEA, Colección Apuntes (2022-12).
- Auer L. von y Wengenroth J. (2020). Consistent aggregation with superlative and other price indices. *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 184 (2): 589-615.
- Ayouba K., Breuillé M.-L., Grivault C. y Le Gallo J. (2020). Does Airbnb disrupt the private rental market? An empirical analysis for French cities. *International Regional Science Review* 43 (1-2): 76-104.
- Ayuntamiento de Madrid (2022). Panel de indicadores de distritos y barrios de Madrid, estudio sociodemográfico. <https://datos.madrid.es>.
- Azqueta Oyarzun D. (1994). Valoración económica de la calidad ambiental. Madrid, ES: McGraw-Hill.
- Azzalini A. (2017). Statistical inference: Based on the likelihood. Routledge.
- Bagnoli C. y Smith H. (1998). The theory of fuzz logic and its application to real estate valuation. *Journal of Real Estate Research* 16 (2): 169-200.
- Bailey M.J., Muth R.F. y Nourse H.O. (1963). A regression method for real estate price index construction. *Journal of the American Statistical Association* 58 (304): 933-942.
- Baldominos A., Blanco I., Moreno A.J., Iturrarte R., Bernárdez Ó. y Afonso C. (2018). Identifying real estate opportunities using machine learning. *Applied sciences* 8 (11): 2321.
- Balk B.M. (1995). Axiomatic price index theory: a survey. *International Statistical*

- Review/Revue Internationale de Statistique 69-93.
- Balk B.M. (2008). Axioms, Tests, and Indices. Cambridge University Press, p. 53-139. <https://doi.org/10.1017/CBO9780511720758.004>.
- Ball M. (1974). The determinants of relative house prices: A reply. *Urban Studies* 11 (2): 231-233.
- Ball M.J. (1973). Recent empirical work on the determinants of relative house prices. *Urban studies* 10 (2): 213-233.
- Banco Central Europeo (2022). Portal de estadística del Banco Central Europeo. <https://www.ecb.europa.eu/stats/html/index.en.html>.
- Banco de España (2019). Evolución reciente del mercado del alquiler de vivienda en España. *Boletín Económico* 3.
- Banco de España (2020). Public intervention in the rental housing market: a review of international experience. Documentos ocasionales/Banco de España, 2002.
- Banco de España (2021). Indicadores del Mercado de la vivienda.
- Banco de España (2022a). Boletín estadístico del Banco de España. <https://www.bde.es/webbde/es/estadis/infoest/bolest.html>.
- Banco de España (2022b). Nota metodológica de la Síntesis de Indicadores del Mercado Inmobiliario. Banco de España. <https://www.bde.es/webbde/es/estadis/infoest/sindi.html>.
- Barbone L., Bodo G. y Visco I. (1981). Costi e profitti nell'industria in senso stretto: un'analisi su serie trimestrali, 1970-1980. *Bollettino della Banca d'Italia* 36: 465-510.
- Barcellan R. (1994). Ecotrim: A program for temporal disaggregation of time series. En: Workshop on Quarterly National Accounts, Eurostat, Theme, Vol. 2. p. 79-95.
- Barnett V. y Lewis T. (1984). Outliers in statistical data. *osd*.
- Barron K., Kung E. y Proserpio D. (2021). The effect of home-sharing on house prices and rents: Evidence from Airbnb. *Marketing Science* 40 (1): 23-47.
- Bartholomew K.A. y Ewing R. (2011). Hedonic Price Effects of Pedestrian- and Transit-Oriented Development. *Journal of Planning Literature* 26: 18-34.
- Batty M. (2009). Accessibility: In search of a unified theory. *Environment and Planning B: Planning and Design* 36 (2): 191-194. <https://doi.org/10.10620188/b3602ed>.
- Bax D., Zewotir T. y North D. (2021). Appraising residential property using hierarchical generalised additive models. *Journal of Property Research* 38 (3): 198-212.
- Ben-Gal I. (2005). Outlier detection. En: *Data mining and knowledge discovery handbook*. Springer, p. 131-146.
- Bennet T. (1920). The theory of measurement of changes in cost of living. *Journal*

- of the Royal Statistical Society 83 (3): 455-462.
- Berndt E.R. (1991). The measurement of quality change: constructing an hedonic price index for computers using multiple regression methods. *The practice of econometrics: Classic and contemporary* 102-149.
- Berndt E.R. y Rappaport N.J. (2001). Price and quality of desktop and mobile personal computers: A quarter-century historical overview. *American Economic Review* 91 (2): 268-273.
- Beullens K., Matsuo H., Loosveldt G. y Vandenplas C. (2014). Quality report for the European Social Survey, round 6. London: European Social Survey ERIC.
- Biancotti C., Kirchner R., Mouriaux F., Rosolia A. y Veronese G. (2020). Covid-19 and official statistics: a wake-up call?
- Bickel P.J. y Doksum K.A. (2015). *Mathematical statistics: basic ideas and selected topics, volumes I-II package*. Chapman; Hall/CRC.
- Blanchard S.D. y Waddell P. (2017). Urbanaccess: generalized methodology for measuring regional accessibility with an integrated pedestrian and transit network. *Transportation research record* 2653 (1): 35-44.
- Bloomberg L.N. (1947). Rent Control and the Housing Shortage: A Commentary on Roofs or Ceilings? by Friedman and Stigler. *J. Land & Pub. Util. Econ.* 23: 214.
- Boeing G. (2020). Online rental housing market representation and the digital reproduction of urban inequality. *Environment and Planning A: Economy and Space* 52 (2): 449-468.
- Boeing G., Higgs C., Liu S., Giles-Corti B., Sallis J.F., Cerin E., Lowe M., Adlakha D., Hinckson E., Moudon A.V. y others (2022). Using open data and open-source software to develop spatial indicators of urban design and transport features for achieving healthy and sustainable cities. *The Lancet Global Health* 10 (6): e907-e918.
- Boeing G. y Waddell P. (2017). New insights into rental housing markets across the United States: Web scraping and analyzing craigslist rental listings. *Journal of Planning Education and Research* 37 (4): 457-476.
- Bondaruk B. (2019). Discrete Global Grid Systems: Operational Capability of the Current State of the Art.
- Boot J. y Feibes W. (1967). On Glejser's derivation of monthly figures from yearly data. *Brussels Economic Review* 36: 589-596.
- Borg I. y Groenen P.J. (2005). *Modern multidimensional scaling: Theory and applications*. Springer Science & Business Media.
- Bourassa S.C., Hoesli M., Merlin L. y Renne J. (2021). Big data, accessibility and urban house prices. *Urban Studies* 58 (15): 3176-3195.
- Bover O. y Velilla P. et al. (2001). Precios hedónicos de la vivienda sin

- características: el caso de las promociones de viviendas nuevas. *Estudios económicos*.
- Bowen W.M., Mikelbank B.A. y Prestegaard D.M. (2001). Theoretical and empirical considerations regarding space in hedonic housing price model applications. *Growth and change* 32 (4): 466-490.
- Bowes D. y Ihlanfeldt K. (2001). Identifying the impacts of rail transit stations on residential property values. *Journal of Urban Economics* 50 (1): 1-25.
- Box G.E., Jenkins G.M., Reinsel G.C. y Ljung G.M. (2016). *Time series analysis: forecasting and control*. Fifth edition. ed. Wiley series en probability y statistics. John Wiley & Sons.
- Bram J. y Ludvigson S.C. (1998). Does consumer confidence forecast household expenditure? A sentiment index horse race. *Economic Policy Review* 4 (2).
- Breiman L. (1996). Bagging predictors. *Machine learning* 24 (2): 123-140.
- Breiman L. (2001). Random forests. *Machine learning* 45 (1): 5-32.
- Breiman L. (2017). *Classification and regression trees*. Routledge.
- Breiman L., Friedman J., Olshen R. y Stone C. (1984). *Cart. Classification and regression trees*.
- Bricongne J.-C., Meunier B. y Pouget S. (2023). Web-scraping housing prices in real-time: The Covid-19 crisis in the UK. *Journal of Housing Economics* 59: 101906. <https://doi.org/10.1016/j.jhe.2022.101906>.
- Britannica (2014). Location theory. *Encyclopedia Britannica*. <https://www.britannica.com/topic/location-theory>.
- Brunsdon C. y Comber A. (2021). Opening practice: supporting reproducibility and critical spatial data science. *Journal of Geographical Systems* 23 (4): 477-496.
- Can A. (1992). Specification and estimation of hedonic housing price models. *Regional science and urban economics* 22 (3): 453-474.
- Carbó Valverde S. y Rodríguez Fernández F. (2010). The relationship between mortgage markets and house prices: does financial instability make the difference? Federal Reserve Bank of Atlanta CenFIS Working Paper 10-02.
- Case B. y Quigley J.M. (1991). The dynamics of real estate prices. *The Review of Economics and Statistics* 50-58.
- Case K.E. y others (1986). The market for single-family homes in the Boston area. *New England Economic Review* (May): 38-48.
- Case K.E. y Quigley J.M. (2008). How housing booms unwind: income effects, wealth effects, and feedbacks through financial markets. *European Journal of Housing Policy* 8 (2): 161-180.
- Case K.E. y Shiller R.J. (1987). Prices of single family homes since 1970: New indexes for four cities. National Bureau of Economic Research Cambridge, Mass., USA.

- Case K.E. y Shiller R.J. (2003). Is there a bubble in the housing market? *Brookings papers on economic activity* 2003 (2): 299-362.
- Casella G. y Berger R.L. (2021). *Statistical inference*. Cengage Learning.
- Cassel C.-M., Sarndal C.-E. y Wretman J.H. (1977). *Foundations of inference in survey sampling*.
- Cassel C., Särndal C. y Wretman J. (1976). Some results on generalized difference estimation and generalized regression estimation for finite populations. *Biometrika* 63 (3): 615-620.
- Cassel E. y Mendelsohn R. (1985). The choice of functional forms for hedonic price equations: comment. *Journal of Urban Economics* 18 (2): 135-142.
- Causey B. y Trager M.L. (1981). Derivation of solution to the benchmarking problem: Trend revision. Unpublished research notes, US Census Bureau, Washington DC.
- Čeh M., Kilibarda M., Lisec A. y Bajat B. (2018). Estimating the performance of random forest versus multiple regression for predicting prices of the apartments. *ISPRS international journal of geo-information* 7 (5): 168.
- Cellmer R. (2023). Points of Interest and Housing Prices. *Real Estate Management and Valuation* 31 (1): 69-77. <https://doi.org/doi:10.2478/remav-2023-0007>.
- Chapelle G. y Eymeoud J.B. (2022). Can big data increase our knowledge of local rental markets? A dataset on the rental sector in France. *PloS one* 17 (1): e0260405.
- Chauvet M., Gabriel S. y Lutz C. (2013). Fear and loathing in the housing market: Evidence from search query data. Available at SSRN 2148769.
- Chen B. y Andrews S. (2008). An empirical review of methods for temporal distribution and interpolation in the national accounts. *Survey of current business* 88 (5): 31.
- Chen J. y Qin J. (1993). Empirical likelihood estimation for finite populations and the effective usage of auxiliary information. *Biometrika* 80 (1): 107-116.
- Chen J. y Sitter R. (1999). A pseudo empirical likelihood approach to the effective use of auxiliary information in complex surveys. *Statistica Sinica* 385-406.
- Chen R. y Tsay R. (1993). Nonlinear additive ARX models. *Journal of the American Statistical Association* 88 (423): 955-967.
- Chen Z. y Dagum E. (1997). A recursive method for predicting variables with temporal and contemporaneous constraints. En: *American Statistical Association, Proceedings of the Business and Economic Statistics Section*. p. 229-233.
- Cheshire P. y Sheppard S. (1995). On the Price of Land and the Value of Amenities. *Economica* 62: 247-267.
- Chicco D., Warrens M.J. y Jurman G. (2021). The coefficient of determination R-

- squared is more informative than SMAPE, MAE, MAPE, MSE and RMSE in regression analysis evaluation. *PeerJ Computer Science* 7: e623.
- Choi K., Park H.J. y Uribe F.A. (2022). The impact of light rail transit station area development on residential property values in Calgary, Canada: Focus on land use diversity and activity opportunities. *Case studies on transport policy* 100924.
- Cholette P.-A. (1984). Adjusting sub-annual series to yearly benchmarks. *Statistics Canada, Methodology Branch, Time Series Research; Analysis . . .*
- Cholette P.-A. (1988). Benchmarking systems of socio-economic time series. *Statistics Canada, Methodology Branch, Time Series Research; Analysis . . .*
- Cholette P. y Dagum E. (1994). Benchmarking time series with autocorrelated survey errors. *International Statistical Review/Revue Internationale de Statistique* 365-377.
- Chow G. y Lin A. (1971). Best linear unbiased interpolation, distribution, and extrapolation of time series by related series. *The review of Economics and Statistics* 372-375.
- Chung I.H. (2015). School choice, housing prices, and residential sorting: Empirical evidence from inter-and intra-district choice. *Regional science and urban economics* 52: 39-49.
- Clapp J.M. (2004). A semiparametric method for estimating local house price indices. *Real Estate Economics* 32 (1): 127-160.
- Clark S. y Lomax N. (2018). A mass-market appraisal of the English housing rental market using a diverse range of modelling techniques. *Journal of big Data* 5 (1): 1-21.
- Cleveland W.S. y Devlin S.J. (1988). Locally weighted regression: an approach to regression analysis by local fitting. *Journal of the American statistical association* 83 (403): 596-610.
- Cleveland W.S., Devlin S.J. y Grosse E. (1988). Regression by local fitting: methods, properties, and computational algorithms. *Journal of econometrics* 37 (1): 87-114.
- Consejo General del Poder Judicial - N° 35 - junio 2013 (2012). *Boletín Información Estadística*. <https://www.poderjudicial.com>.
- Corder G.W. y Foreman D. (2014). *Nonparametric statistics: A step-by-step approach*. John Wiley & Sons.
- Court A.T. (1939). Hedonic price indexes with automotive examples.
- Cousineau D. y Chartier S. (2010). Outliers detection and treatment: a review. *International Journal of Psychological Research* 3 (1): 58-67.
- Curry B., Morgan P. y Silver M. (2002). Neural networks and non-linear statistical methods: an application to the modelling of price-quality relationships.

- Computers & Operations Research 29 (8): 951-969.
- d'Acci L. (2019). Quality of urban area, distance from city centre, and housing value. Case study on real estate values in Turin. *Cities* 91: 71-92.
- D'Orazio M., Di Zio M. y Scanu M. (2006). Statistical matching: Theory and practice. John Wiley & Sons.
- Daalmans J. y Di Fonzo T. (2014). Denton PFD and GRP benchmarking are friends. An empirical evaluation on Dutch Supply and Use Tables. En: Unpublished paper presented at the 22nd International Input-Output conference.
- Daalmans J., Di Fonzo T., Mushkudiani N. y Bikker R. (2018). Growth Rates Preservation (GRP) temporal benchmarking: Drawbacks and alternative solutions. *Survey Methodology* 44 (1): 43-61.
- Dagum E. y Cholette P. (2006b). Reconciliation and Balancing Systems of Time Series. Benchmarking, Temporal Distribution, and Reconciliation Methods for Time Series 263-284.
- Dagum E. y Cholette P. (2006a). Benchmarking, temporal distribution, and reconciliation methods for time series. Springer Science & Business Media.
- Davies J., Elliot D., Aston J. y Sayal H. (2015). A comparison of new and established benchmarking methods. Working Paper). Cambridge, UK: CMIH. Retrieved from <http://www.ccimi.maths...>
- De Wit E.R., Englund P. y Francke M.K. (2013). Price and transaction volume in the Dutch housing market. *Regional Science and Urban Economics* 43 (2): 220-241.
- DeGroot M.H. y Schervish M.J. (2012). Probability and statistics. Pearson Education.
- DeJong D.N., Nankervis J.C., Savin N.E. y Whiteman C.H. (1992). Integration versus trend-stationarity in time series. *Econometrica* 60 (2): 423-433.
- Del Cacho C. (2010). A comparison of data mining methods for mass real estate appraisal.
- Delignette-Muller M.L., Dutang C. y others (2015). fitdistrplus: An R package for fitting distributions. *Journal of statistical software* 64 (4): 1-34.
- Demchenko Y., De Laat C. y Membrey P. (2014). Defining architecture components of the Big Data Ecosystem. En: 2014 International conference on collaboration technologies and systems (CTS). IEEE, p. 104-112.
- Deming W.E. y Stephan F.F. (1940). On a least squares adjustment of a sampled frequency table when the expected marginal totals are known. *The Annals of Mathematical Statistics* 11 (4): 427-444.
- Dempster A.P., Laird N.M. y Rubin D.B. (1977). Maximum likelihood from incomplete data via the EM algorithm. *Journal of the Royal Statistical Society: Series B (Methodological)* 39 (1): 1-22.
- Deng Y., Ross S.L. y Wachter S.M. (2003). Racial differences in homeownership:

- the effect of residential location. *Regional Science and Urban Economics* 33 (5): 517-556.
- Denton F.T. (1971). Adjustment of monthly or quarterly series to annual totals: an approach based on quadratic minimization. *Journal of the American Statistical Association* 66 (333): 99-102.
- Des Rosiers F. y Thériault M. (2006). Mass appraisal, hedonic price modelling and urban externalities: Understanding property value shaping processes.
- Desormeaux D. y Piguillem F. (2003). Precios hedónicos e índices de precios de viviendas. Documento de trabajo (12).
- Devaud D. y Tillé Y. (2019). Deville and Särndal's calibration: revisiting a 25-years-old successful optimization problem. *Test* 28 (4): 1033-1065.
- Deville J.-C. (2000). Generalized calibration and application to weighting for non-response. En: *COMPSTAT*. Springer, p. 65-76.
- Deville J.-C. y Särndal C.-E. (1992). Calibration estimators in survey sampling. *Journal of the American statistical Association* 87 (418): 376-382.
- Di Fonzo T. (2002). Temporal Disaggregation of Economic Time Series: Towards a Dynamic Extension. European Commission (Eurostat) Working Papers and Studies, Theme 1, General Statistics (pp. 41).
- Di Fonzo T. y Filosa R. (1987). Methods of estimation of quarterly national account series: a comparison. *Journée franco-italienne de Compatibilité Nationale*.
- Di Fonzo T. y Marini M. (2005). Benchmarking a system of time series: Denton's movement preservation principle vs. a data based procedure. En: *Proceedings of the Workshop in Frontiers in Benchmarking Techniques and their Application in Official Statistics*, Luxembourg, Eurostat (to appear).
- Di Fonzo T. y Marini M. (2011). Simultaneous and two-step reconciliation of systems of time series: methodological and practical issues. *Journal of the Royal Statistical Society: Series C (Applied Statistics)* 60 (2): 143-164.
- Diamond R., McQuade T. y Qian F. (2019). The effects of rent control expansion on tenants, landlords, and inequality: Evidence from San Francisco. *American Economic Review* 109 (9): 3365-94.
- Diaz A. y Jerez B. (2013). House prices, sales, and time on the market: A search-theoretic framework. *International Economic Review* 54 (3): 837-872.
- Díaz J.C. (1997). La teoría de los índices de precios. *Cuadernos de estudios empresariales* (7): 71-88.
- Diewert E. y Shimizu C. (2021). Residential Property Price Indexes: Spatial Coordinates Versus Neighborhood Dummy Variables. *Review of Income and Wealth*.
- Diewert W.E. (1976). Exact and superlative index numbers. *Journal of econometrics* 4 (2): 115-145.

- Diewert W.E. (2003). Hedonic regressions: A review of some unresolved issues. En: 7th meeting of the Ottawa Group, Paris, May, Vol. 29.
- Diewert W.E. (2005). Index number theory using differences rather than ratios. *American Journal of Economics and Sociology* 64 (1): 311-360.
- Diewert W.E. (2009). The Paris OECD-IMF workshop on real estate price indexes: conclusions and future directions. *Price and Productivity Measurement* 1: 87-116.
- Diewert W.E., Nishimura K.G., Shimizu C., Watanabe T. y others (2020). Property Price Index. *Advances in Japanese Business and Economics*.
- Diewert W.E. y others (2007). Index numbers. Department of Economics, University of British Columbia.
- Dirección General del Catastro (2020). Estadística del Catastro Inmobiliario Urbano. <http://www.catastro.minhap.gob.es/esp/estadisticas.asp>.
- Dirección General del Catastro (2022). Registro Central del Catastro (Sede Electrónica). <https://www.sedecatastro.gob.es>.
- Dixon W.J. (1950). Analysis of extreme values. *The Annals of Mathematical Statistics* 21 (4): 488-506.
- Dolls M., Fuest C., Neumeier F. y Stöhlker D. (2021). Ein Jahr Mietendeckel: Wie hat sich der Berliner Immobilienmarkt entwickelt? *ifo Schnelldienst* 74 (3): 26-29.
- Dubin R.A. (1998). Spatial autocorrelation: A primer. *Journal of Housing Economics* 7 (4): 304-327.
- Echaves García A. y Martínez del Olmo A. (2021). Emancipación residencial y acceso de los jóvenes al alquiler en España: Un problema agravado y su diversidad territorial. *Ciudad y Territorio Estudios Territoriales* 53 (M): 27-42. <https://doi.org/10.37230/CyTET.2021.M21.02>.
- Edgeworth F.Y. (1888). Some new methods of measuring variation in general prices. *Journal of the Royal Statistical Society* 51 (2): 346-368.
- Edgeworth F.Y. (1925). The Plurality of Index-Numbers. *The Economic Journal* 35 (139): 379-388.
- Elfayoumi K., Salas J. y Tudyka A. (2021). Affordable Rental Housing: Making It Part of Europe's Recovery. *Departmental Papers* 2021 (13).
- Empirica (2021). Housing market data available for Q1 2021. <https://www.empirica-regio.de/en/news/>.
- Enders W. (2014). *Applied econometric time series*. 4th ed. ed. Wiley Series en Probability y Statistics. J. Wiley, Hoboken, NJ.
- European Statistical System (2023). <https://ec.europa.eu/eurostat/web/european-statistical-system>.
- Eurostat (2013). *Handbook on quarterly national accounts*.

- Eurostat (2014). Handbook on Residential Property Prices (RPPIs). En: Statistical Office of the European Communities and International Labour Office. International Monetary Fund Washington, DC.
- Eurostat (2015). ESS guidelines on temporal disaggregation : benchmarking and reconciliation.
- Eurostat (2017a). Technical manual on Owner-Occupied Housing and House Price Indices. 138. <http://ec.europa.eu/eurostat/documents/7590317/0/Technical-Manual-OOH-HPI-2017/>.
- Eurostat (2017b). HICP Recommendation on Obtaining Scanner Data.
- Eurostat (2021). Housing in Europe. <https://ec.europa.eu/eurostat/cache/digpub/housing/index.html?lang=en>.
- Eurostat (2022). Housing price statistics - house price index sales. Eurostat. https://ec.europa.eu/eurostat/cache/metadata/en/prc_hpi_inx_esms.htm.
- Fan G.-Z., Ong S.E. y Koh H.C. (2006). Determinants of house price: A decision tree approach. *Urban Studies* 43 (12): 2301-2315.
- Fenwick D. (2013). Uses of residential property price indices.
- Fernandez R. (1981). A methodological note on the estimation of time series. *The Review of Economics and Statistics* 63 (3): 471-476.
- Finect (2021). Deducción por alquiler en la renta. <https://www.finet.com/usuario/Josetrecet/articulos/deduccion-alquiler-renta>.
- Fisher I. (1922a). The making of index numbers: a study of their varieties, tests, and reliability. N.º 1. Houghton Mifflin.
- Fisher R.A. (1922b). On the mathematical foundations of theoretical statistics. *Philosophical Transactions of the Royal Society of London. Series A* 222: 309-368.
- Fix E. y Hodges J.L. (1989). Discriminatory analysis. Nonparametric discrimination: Consistency properties. *International Statistical Review/Revue Internationale de Statistique* 57 (3): 238-247.
- Fletcher M., Gallimore P. y Mangan J. (2000). Heteroscedasticity in hedonic house price models. *Journal of Property Research* 17 (2): 93-108.
- Follain J.R. y Malpezzi S. (1980). Dissecting housing value and rent: Estimates of hedonic indexes for thirty-nine large SMSAs. Vol. 249. Urban Institute Press.
- Folsom R.E. y Singh A.C. (2000). The generalized exponential model for sampling weight calibration for extreme values, nonresponse, and poststratification. En: *Proceedings of the American Statistical Association, Survey Research Methods Section*, Vol. 598603.
- Fonzo T.D. y Marini M. (2013). Benchmarking and movement preservation: Evidences from real-life and simulated series. En: *Advances in theoretical and applied statistics*. Springer, p. 499-509.

- Fotocasa (2017). Metodología de cálculo del índice de precios de la vivienda en alquiler. <https://prensa.fotocasa.es/wp-content/uploads/2017/12/Metodologia-indice-alquiler.pdf>.
- Fotocasa (2021). Número de anuncios publicados en fotocasa. <https://www.fotocasa.es/>.
- Fox J. (2000). Multiple and generalized nonparametric regression. Vol. 7. Sage.
- Franco S.F. y Santos C.D. (2021). The impact of Airbnb on residential property values and rents: Evidence from Portugal. *Regional Science and Urban Economics* 88: 103667.
- Frank L.D., Sallis J.F., Saelens B.E., Leary L., Cain K., Conway T.L. y Hess P.M. (2010). The development of a walkability index: application to the Neighborhood Quality of Life Study. *British journal of sports medicine* 44 (13): 924-933.
- Freeman M. (1979). The hedonic price approach to measuring demand for neighborhood characteristics. 191-217.
- Freund Y., Schapire R. y Abe N. (1999). A short introduction to boosting. *Journal-Japanese Society For Artificial Intelligence* 14 (771-780): 1612.
- Friedman J. y Weinberg D.H. (1981). The demand for rental housing: Evidence from the housing allowance demand experiment. *Journal of Urban Economics* 9 (3): 311-331.
- Fuller W.A. (2011). Sampling statistics. John Wiley & Sons.
- Füss R. y Koller J.A. (2016). The role of spatial and temporal structure for residential rent predictions. *International Journal of Forecasting* 32 (4): 1352-1368.
- Galesi A., Mata N., Rey D., Schmitz S. y Schuffels J. (2020). Regional housing market conditions in Spain. Available at SSRN 3724178.
- García-López M.-À., Jofre-Monseny J., Martínez-Mazza R. y Segú M. (2020). Do short-term rental platforms affect housing markets? Evidence from Airbnb in Barcelona. *Journal of Urban Economics* 103278.
- Gasparini L. y Sosa Escudero W. (1999). Bienestar y distribución del ingreso en Argentina, 1980-1998. *Económica* 45.
- Ge J., Runeson G. y Lam K. (2003). Forecasting Hong Kong housing prices: An artificial neural network approach. En: *International conference on methodologies in housing research*, Stockholm, Sweden.
- Giffen B. van, Herhausen D. y Fahse T. (2022). Overcoming the pitfalls and perils of algorithms: A classification of machine learning biases and mitigation methods. *Journal of Business Research* 144: 93-106.
- Giuliano G. y Small K. (1991). Subcenters in the Los Angeles region.
- Goh Y.M., Costello G. y Schwann G. (2012). Accuracy and robustness of house price

- index methods. *Housing Studies* 27 (5): 643-666.
- Gómez-Rubio V. (2020). *Bayesian inference with INLA*. CRC Press.
- Goodman A.C. y Thibodeau T.G. (1995). Age-related heteroskedasticity in hedonic house price. *Journal of Housing Research* 6: 25-42.
- Goodman A.C. y Thibodeau T.G. (1998). Housing Market Segmentation. *Journal of Housing Economics* 7 (2): 121-143. <https://doi.org/10.1006/jhec.1998.0229>.
- Graczyk M., Lasota T. y Trawiński B. (2009). Comparative analysis of premises valuation models using KEEL, RapidMiner, and WEKA. 800-812.
- Graczyk M., Lasota T., Trawiński B. y Trawiński K. (2010). Comparison of bagging, boosting and stacking ensembles applied to real estate appraisal. 340-350.
- Graf B. (2020). *Consumer Price Index Manual, 2020: Concepts and Methods*. En: *Consumer Price Index Manual, 2020*. International Monetary Fund.
- Griliches Z. (1961). Hedonic price indexes for automobiles: An econometric of quality change. En: *The price statistics of the federal government*. NBER, p. 173-196.
- Griliches Z. (1990). Hedonic price indexes and the measurement of capital and productivity: some historical reflections. 185-202.
- Grömping U. (2009). Variable importance assessment in regression: linear regression versus random forest. *The American Statistician* 63 (4): 308-319.
- Guerrero V.M. y Martínez J. (1995). A recursive ARIMA-based procedure for disaggregating a time series variable using concurrent data. *Test* 4 (2): 359-376.
- Guilkey D., Miles M. y Cole R. (1989). The motivation for institutional real estate sales and implications for asset class returns. *Real Estate Economics* 17 (1): 70-86.
- Guyet T., Spillemaecker L., Malinowski S. y Graux A.-I. (2022). Temporal Disaggregation of the Cumulative Grass Growth. 383-394.
- Han L. y Strange W. (2016). What is the role of the asking price for a house? *Journal of Urban Economics* 93: 115-130.
- Han L. y Strange W.C. (2014). Bidding wars for houses. *Real Estate Economics* 42 (1): 1-32.
- Handy S. (2020). Is accessibility an idea whose time has finally come? *Transportation Research Part D: Transport and Environment* 83: 102319.
- Handy S.L. y Niemeier D.A. (1997). Measuring accessibility: an exploration of issues and alternatives. *Environment and planning A* 29 (7): 1175-1194.
- Hanink D., Cromley R. y Ebenstein A. (2012). Spatial variation in the determinants of house prices and apartment rents in China. *The Journal of Real Estate Finance and Economics* 45 (2): 347-363.
- Hansen L.K. y Salamon P. (1990). Neural network ensembles. *IEEE transactions*

- on pattern analysis and machine intelligence 12 (10): 993-1001.
- Hansen W.G. (1959). How Accessibility Shapes Land Use. *Journal of the American Planning Association* 25 (2): 73-76. <https://doi.org/10.1080/01944365908978307>.
- Hanushek E.A. y Quigley J.M. (1979). The dynamics of the housing market: A stock adjustment model of housing consumption. *Journal of Urban Economics* 6 (1): 90-111.
- Härdle W. y Linton O. (1994). Applied nonparametric methods. *Handbook of econometrics* 4: 2295-2339.
- Hashem S. (1997). Optimal linear combinations of neural networks. *Neural networks* 10 (4): 599-614.
- Hastie T. y Tibshirani R. (2017). *Generalized additive models*. Routledge.
- Hastie T, Tibshirani R. y Friedman J. (2017). *The elements of statistical learning: data mining, inference, and prediction*. Second Edition. Springer Science & Business Media.
- Hawkins D.M. (1980). *Identification of outliers*. Vol. 11. Springer.
- He Z., Xu X. y Deng S. (2003). Discovering cluster-based local outliers. *Pattern Recognition Letters* 24 (9-10): 1641-1650.
- Heikkila E., Gordon P., Kim J.I., Peiser R.B., Richardson H.W. y Dale-Johnson D. (1989). What Happened to the CBD-Distance Gradient?: Land Values in a Policentric City. *Environment and Planning A* 21 (2): 221-232.
- Helbich M., Brunauer W., Vaz E. y Nijkamp P. (2014). Spatial heterogeneity in hedonic house price models: The case of Austria. *Urban Studies* 51 (2): 390-411.
- Henderson J.V. (1985). The impact of zoning policies which regulate housing quality. *Journal of Urban Economics* 18 (3): 302-312.
- Heyman A., Law S. y Berghauser Pont M. (2018). How is Location Measured in Housing Valuation? A Systematic Review of Accessibility Specifications in Hedonic Price Models. *Urban Science* 3 (1): 3. <https://doi.org/10.3390/urbansci3010003>.
- Heyman A.V. y Sommervoll D.E. (2019). House prices and relative location. *Cities* 95: 102373.
- Hill R.J. (2006). When does chaining reduce the Paasche-Laspeyres spread? An application to scanner data. *Review of Income and Wealth* 52 (2): 309-325.
- Hill R.J. (2013). Hedonic price indexes for residential housing: A survey, evaluation and taxonomy. *Journal of economic surveys* 27 (5): 879-914.
- Hill R.J. y Scholz M. (2018). Can Geospatial Data Improve House Price Indexes? A Hedonic Imputation Approach with Splines. *Review of Income and Wealth* 64: 737-756. <https://doi.org/10.1111/roiw.12303>.

- Hill R., Scholz M., Shimizu C. y Steurer M. (2018). An evaluation of the methods used by European countries to compute their official house price indices. *Economie et Statistique* 500 (1): 221-238.
- Hillier B. y Hanson J. (1989). *The social logic of space*. Cambridge university press.
- Hillmer S.C. y Trabelsi A. (1987). Benchmarking of economic time series. *Journal of the American Statistical Association* 82 (400): 1064-1071.
- Hjort A., Pensar J., Scheel I. y Sommervoll D.E. (2022). House price prediction with gradient boosted trees under different loss functions. *Journal of Property Research* 1-27.
- Ho W., Tang B.-S. y Wong S. (2021). Predicting property prices with machine learning algorithms. *Journal of Property Research* 38 (1): 48-70.
- Hofsten E.A.G. von y others (1952). *Price indexes and quality changes*. Bokforlage Forum.
- Hong J., Choi H. y Kim W. (2020). A house price valuation based on the random forest approach: the mass appraisal of residential property in South Korea. *International Journal of Strategic Property Management* 24 (3): 140-152.
- Hood C.C.H. (2005). An empirical comparison of methods for benchmarking seasonally adjusted series to annual totals. *Proceedings of the American Statistical Association, Business and Economic Statistics Section*. [CD-ROM] http://www.census.gov/ts/papers/chood_asa2005.pdf.
- Horn K. y Merante M. (2017). Is home sharing driving up rents? Evidence from Airbnb in Boston. *Journal of Housing Economics* 38: 14-24.
- Hornik K., Stinchcombe M. y White H. (1989). Multilayer feedforward networks are universal approximators. *Neural networks* 2 (5): 359-366.
- Horowitz J.L. y Lee S. (2002). Semiparametric methods in applied econometrics: Do the models fit the data? *Statistical Modelling* 2 (1): 3-22.
- Hort M., Chen Z., Zhang J.M., Sarro F. y Harman M. (2022). Bias Mitigation for Machine Learning Classifiers: A Comprehensive Survey. <https://arxiv.org/abs/2207.07068>.
- Hu L., He S. y Su S. (2022). A novel approach to examining urban housing market segmentation: Comparing the dynamics between sales submarkets and rental submarkets. *Computers, Environment and Urban Systems* 94: 101775.
- Hu Y. y Han Y. (2019). Identification of urban functional areas based on POI data: A case study of the Guangzhou economic and technological development zone. *Sustainability* 11 (5): 1385.
- Hubert M. y Vandervieren E. (2008). An adjusted boxplot for skewed distributions. *Computational statistics & data analysis* 52 (12): 5186-5201.
- Hwang M. y Quigley J.M. (2010). Housing price dynamics in time and space: predictability, liquidity and investor returns. *The Journal of Real Estate Finance*

- and Economics 41: 3-23.
- Hyndman R.J. y Athanasopoulos G. (2018). Forecasting: principles and practice. OTexts.
- Idealista (2019). Metodología de cálculo del índice de precios de la vivienda en alquiler. <https://www.idealista.com/sala-de-prensa/informes-precio-vivienda/>.
- Idealista (2020). Informe anual idealista/data 2020. <http://www.idealista.com/data>.
- Idealista (2021). Número de anuncios publicados en idealista. <https://www.idealista.com/>.
- Idealista (2022). Datos del informe de precios del mercado inmobiliario de Idealista - Diciembre 2022. <http://www.idealista.com/data>.
- INE (2006b). Índice de Precios de la vivienda - Base 2007. <https://www.ine.es/daco/daco42/ipv/metodologia.pdf>.
- INE (2006a). Metodología de la Encuesta de presupuestos familiares. Base 2006.
- INE (2009). Metodología Índice del Precio de la Vivienda, base 2007.
- INE (2011). Metodología del Censo de viviendas y Edificios 2011.
- INE (2016b). Clasificación de bienes y servicios ECOICOP. <https://www.ine.es/dynt3/inebase/index.htm?padre=3929&capsel=3929>.
- INE (2016a). Metodología Índice del Precio de la Vivienda, base 2015.
- INE (2017). Metodología del Índice de Precios de Consumo. Base 2016.
- INE (2019). Metodología: Encuesta de Condiciones de Vida. Instituto Nacional de Estadística: Madrid, Spain.
- INE (2021a). Encuesta continua de hogares. Resultados nacionales. <https://www.ine.es/dynt3/inebase/index.htm?type=pcaxis&path=/t20/p274/serie/prov/p01&file=pcaxis&L=0&dh=0&capsel=0>.
- INE (2021b). Índice de Precios de la Vivienda en Alquiler.
- INE (2022d). Estudio piloto de movilidad a partir del posicionamiento de teléfonos móviles.
- INE (2022a). Datos de contabilidad Nacional - Diciembre 2022.
- INE (2022c). Datos Índice de Precios de Consumo (IPC) - Diciembre 2022.
- INE (2022b). Datos del Índice de Precios de la Vivienda - Diciembre 2022. https://www.ine.es/prensa/ipv_tabla1.htm.
- INE (2023d). Estadística continua de población. Resultados. https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736177095&menu=resultados&idp=1254735572981.
- INE (2023a). Encuesta de ocupación en hotelera. EOAT. Julio 2023. https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176962&menu=ultiDatos&idp=1254735576863.
- INE (2023e). Viviendas turísticas en España. https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176962&menu=ultiDatos&

idp=1254735576863.

- INE (2023b). Estadísticas de hipotecas. Estadísticas Nacionales.
- INE (2023c). Encuesta de Población activa.
- Internacional F.M. (2003). World Economic Outlook - April 2003 - Growth and Institutions. En: IMF eLibrary. International Monetary Fund.
- Internacional F.M. (2022). World Economic Outlook - Julio 2022 - Gloomy and More Uncertain. En: IMF eLibrary. International Monetary Fund.
- Jarque C.M. y Bera A.K. (1980). Efficient tests for normality, homoscedasticity and serial independence of regression residuals. *Economics letters* 6 (3): 255-259.
- Jarrell M.G. (1992). A comparison of two procedures, the Mahalanobis distance and the Andrews-Pregibon statistic, for identifying multivariate outliers.
- Judd C.M., McClelland G.H. y Ryan C.S. (2011). *Data analysis: A model comparison approach*. Routledge.
- Kadane J. (1978). Some statistical problems in merging data files. 1978 *Compendium of Tax Research* 17: 159-171.
- Kain J.F. y Quigley J.M. (1970). Measuring the value of housing quality. *Journal of the American statistical association* 65 (330): 532-548.
- Kaiser H.F. (1958). The varimax criterion for analytic rotation in factor analysis. *Psychometrika* 23 (3): 187-200.
- Katranji M., Thuillier E., Kraiem S., Moalic L. y Selem F.H. (2016). Mobility data disaggregation: A transfer learning approach. 1672-1677.
- Kauko T., Hooimeijer P. y Hakfoort J. (2002). Capturing housing market segmentation: An alternative approach based on neural network modelling. *Housing Studies* 17 (6): 875-894.
- Kestens Y., Thériault M. y Des Rosiers F. (2006). Heterogeneity in hedonic modelling of house prices: looking at buyers' household profiles. *Journal of Geographical Systems* 8 (1): 61-96.
- Kholodilin K. (2020). Long-Term, Multicountry Perspective on Rental Market Regulations. *Housing Policy Debate* 30 (6): 994-1015. <https://doi.org/10.1080/10511482.2020.1789889>.
- Kiel K.A. y Zabel J.E. (2008). Location, location, location: The 3L Approach to house price determination. *Journal of Housing Economics* 17 (2): 175-190.
- Knaap G.J. y Song Y. (2003). New urbanism and housing values: a disaggregate assessment. Vol. 54. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.197.7545%7B/&%7Drep=rep1%7B/&%7Dtype=pdf>.
- Kokot S. y Bas M. (2015). The comparative analysis of asking and traded price indices in different floor area subsegments of the residential property market. *Real Estate Management and Valuation* 23 (3): 14-25.
- Kolbe J., Schulz R., Wersing M. y Werwatz A. (2021). Real estate listings and their

- usefulness for hedonic regressions. *Empirical economics* 61 (6): 3239-3269.
- Kontrimas V. y Verikas A. (2011). The mass appraisal of the real estate by computational intelligence. *Applied Soft Computing* 11 (1): 443-448.
- Konüs A.A. (1924). The problem of the true index of the cost of living. *Ekonomicheskaya Zhizn*.
- Koster H., Van Ommeren J. y Volkhausen N. (2018). Short-term rentals and the housing market: Quasi-experimental evidence from Airbnb in Los Angeles.
- Kott P. y Liao D. (2017). Calibration weighting for nonresponse that is not missing at random: Allowing more calibration than response-model variables. *Journal of Survey Statistics and Methodology* 5 (2): 159-174.
- Krogh A. (2008). What are artificial neural networks? *Nature biotechnology* 26 (2): 195-197.
- Krogh A. y Vedelsby J. (1994). Neural network ensembles, cross validation, and active learning. *Advances in neural information processing systems* 7.
- Kuhn M., Johnson K. y others (2018). *Applied predictive modeling*, 2nd edition. Vol. 26. Springer.
- Kullback L. (2012). On Information and Sufficiency. 22 (1): 79-86.
- La Paz P.T. de y others (2021). Predicting housing prices. A long term housing price path for Spanish regions. *Latin American Real Estate Society (LARES)*.
- Lacerda N. (2018). Mercado imobiliário de bens patrimoniais: um modelo interpretativo a partir do centro histórico do Recife (Brasil). *EURE (Santiago)* 44 (132): 89-108.
- Lang M., Binder M., Richter J., Schratz P., Pfisterer F., Coors S., Au Q., Casalicchio G., Kotthoff L. y Bischl B. (2019). mlr3: A modern object-oriented machine learning framework in R. *Journal of Open Source Software*. <https://doi.org/10.21105/joss.01903>.
- Larraz B. y Poblacion J. (2013). An online real estate valuation model for control risk taking: A spatial approach. *Investment Analysts Journal* 2013 (78): 83-96.
- LeCun Y., Bengio Y. y Hinton G. (2015). Deep learning. *nature* 521 (7553): 436-444.
- LeSage J. y Pace R.K. (2009). *Introduction to spatial econometrics*. Chapman; Hall/CRC.
- Leucescu A. y Agafitei M. (2013). Statistical matching: a model based approach for data integration. *Eurostat methodologies and Working papers*. <https://doi.org/10.2785/44822>.
- Levinson D. y Krizek K. (2005). *Access to destinations*. Elsevier Publishers.
- Li H., Wei Y.D., Wu Y. y Tian G. (2019). Analyzing housing prices in Shanghai with open data: Amenity, accessibility and urban structure. *Cities* 91: 165-179.
- Li K.-C. (1984). Consistency for cross-validated nearest neighbor estimates in nonparametric regression. *The Annals of Statistics* 230-240.

- Li Z. y Wood S.N. (2020). Faster model matrix crossproducts for large generalized linear models with discretized covariates. *Statistics and Computing* 30 (1): 19-25.
- Liaw A. y Wiener M. (2002). Classification and regression by randomForest. *R news* 2 (3): 18-22.
- Lieske S.N., Nouwelant R. van den, Han J.H. y Pettit C. (2021). A novel hedonic price modelling approach for estimating the impact of transportation infrastructure on property prices. *Urban Studies* 58 (1): 182-202.
- Lin Y. y Zhang H.H. (2006). Component selection and smoothing in multivariate nonparametric regression. *The Annals of Statistics* 34 (5): 2272-2297.
- Lisman J.H.C. y Sandee J. (1964). Derivation of quarterly figures from annual data. *Journal of the Royal Statistical Society: Series C (Applied Statistics)* 13 (2): 87-90.
- Litterman R. (1983). A random walk, Markov model for the distribution of time series. *Journal of Business & Economic Statistics* 1 (2): 169-173.
- Liu J.-G., Zhang X.-L. y Wu W.-P. (2006). Application of fuzzy neural network for real estate prediction. En: *International Symposium on Neural Networks*. Springer, p. 1187-1191.
- Liu S., Higgs C., Arundel J., Boeing G., Cerdera N., Moctezuma D., Cerin E., Adlakha D., Lowe M. y Giles-Corti B. (2022). A generalized framework for measuring pedestrian accessibility around the world using open data. *Geographical Analysis* 54 (3): 559-582.
- Lloyd S. (1982). Least squares quantization in PCM. *IEEE transactions on information theory* 28 (2): 129-137.
- Roberto M., Luciani A., Pangallo M. y others (2018). The potential of big housing data: an application to the Italian real-estate market. Banca d'Italia, Eurosisistema.
- Löchl M. (2010). Application of spatial analysis methods for understanding geographic variation of prices, demand and market success. ETH Zurich.
- Lohr S.L. (2019). Sampling: design and analysis. Chapman; Hall/CRC.
- López J. (2007). Los índices de precio de la vivienda. Problemática. *Revista Índice, Revista de Estadística y Sociedad* 14-17.
- Lowe J. (1824). The present state of England in regard to agriculture, trade and finance: with a comparison of the prospects of England and France. E. Bliss; E. White.
- Lundberg S.M., Erion G.G. y Lee S.-I. (2018). Consistent individualized feature attribution for tree ensembles. *arXiv preprint arXiv:1802.03888*.
- Lundberg S.M. y Lee S.-I. (2017). A unified approach to interpreting model predictions. *Advances in neural information processing systems* 30.

- Malpezzi S. y others (2003). Hedonic pricing models: a selective and applied review. *Housing economics and public policy* 1: 67-89.
- Martínez S. y Rueda Rueda M. (2002). Estimadores de calibración: una nueva metodología para el uso de la información auxiliar. *Metodología de encuestas* 4 (2): 161-174.
- McCluskey W. y Anand S. (1999). The application of intelligent hybrid techniques for the mass appraisal of residential properties. *Journal of Property Investment & Finance*.
- McCulloch W. y Pitts W. (1943). A logical calculus of the ideas immanent in nervous activity. *The bulletin of mathematical biophysics* 5: 115-133.
- McLaughlin R. y Young C. (2018). Data democratization and spatial heterogeneity in the housing market. *A Shared Future: Fostering Communities of Inclusion in an Era of Inequality*. Cambridge, MA: Harvard Joint Center for Housing Studies 126-139.
- Meinshausen N. (2006). Quantile regression forests. *Journal of Machine Learning Research* 7 (Jun): 983-999.
- Meng X.-L. y Rubin D.B. (1993). Maximum likelihood estimation via the ECM algorithm: A general framework. En: *Biometrika*, Vol. 80. <http://biomet.oxfordjournals.org/>.
- Meyer H., Reudenbach C., Wöllauer S. y Nauss T. (2019). Importance of spatial predictor variable selection in machine learning applications—Moving from data reproduction to spatial prediction. *Ecological Modelling* 411: 108815.
- Miller J.N. (1993). Tutorial review—Outliers in experimental data and their treatment. *Analyst* 118 (5): 455-461.
- Mills E.S. (1972). *Studies in the Structure of the Urban Economy*.
- Ministerio de la Gobernación (1944). Orden de 29 de febrero de 1944, por la que se determinan las condiciones higiénicas mínimas que han de reunir las viviendas. N.º BOE-A-1944-2079. <https://www.boe.es/buscar/doc.php?id=BOE-A-1944-2079>.
- Miralles J.M.P. (1997). *La problemática de la trimestralización de series anuales*. Universitat de Valencia (Spain).
- MITMA (2020). Sistema Estatal de Índices de Referencia del Precio del Alquiler de Vivienda. <http://www.fomento.gob.es/be2/?nivel=2&orden=34000000>.
- MITMA (2022a). Estadísticas del sector de la construcción, Vivienda y actuaciones urbanas. <http://www.fomento.gob.es/be2/?nivel=2&orden=34000000>.
- MITMA (2022b). Observatorio de vivienda y suelo. Ministerio de Transportes, Movilidad y Agenda Urbana. <https://apps.mitma.gob.es/CVP/>.
- Moauo F. y Savio G. (2005). Temporal disaggregation using multivariate structural time series models. *The Econometrics Journal* 8 (2): 214-234.

- <https://doi.org/10.1111/j.1368-423x.2005.00161.x>.
- Monahan J. (2011). Numerical methods of statistics. Cambridge University Press.
- Monràs J. y Montalvo J.G. (2022). The effect of second generation rent controls: New evidence from Catalonia. Department of Economics; Business, Universitat Pompeu Fabra.
- Montalvo J.G. (2011). De la quimera inmobiliaria al colapso financiero. Antoni Bosch Editor.
- Montanari G.E. y Ranalli M.G. (2005). Nonparametric model calibration estimation in survey sampling. *Journal of the American Statistical Association* 100 (472): 1429-1442.
- Montero J.M., Fernández-Avilés G. y Mateu J. (2015). Spatial and spatio-temporal geostatistical modeling and kriging. Wiley series en probability y statistics. Wiley, Chichester, West Sussex.
- Montgomery J. (1929). Is There a Theoretically Correct Price Index of a Group of Commodities? *L'Universale Tipogr. poliglotta*.
- Moralı O. y Yılmaz N. (2020). An analysis of spatial dependence in real estate prices. *The Journal of Real Estate Finance and Economics* 1-23.
- Münger B. (2021). Generalized Additive Model Implementation for Germany Real Estate Market-Model, API, UI Development.
- Muth R.F. (1969). Cities and housing, the spatial pattern of urban residential land use.
- Nguyen y Cripps (2001). Predicting housing value: A comparison of multiple regression analysis and artificial neural networks. *Journal of real estate research* 22 (3): 313-336.
- Obe R. y Hsu L. (2011). PostGIS in action. *GEOInformatics* 14 (8): 30.
- OCDE (2018). Housing prices. <https://data.oecd.org/price/housing-prices.htm>.
- Ohnishi T., Mizuno T., Shimizu C. y Watanabe T. (2011). On the evolution of the house price distribution.
- Olsen E.O. (1988). What do economists know about the effect of rent control on housing maintenance? *The journal of real estate finance and economics* 1 (3): 295-307.
- OpenStreetMap (2017). Planet dump retrieved from <https://planet.osm.org> . <https://www.openstreetmap.org>.
- Opitz D.W. y Shavlik J.W. (1996). Actively searching for an effective neural network ensemble. *Connection Science* 8 (3-4): 337-354.
- Orford S. (2017). Valuing the built environment: GIS and house price analysis. Routledge.
- Orr J.M., Sackett P.R. y Dubois C.L. (1991). Outlier detection and treatment in I/O psychology: A survey of researcher beliefs and an empirical illustration.

- Personnel Psychology 44 (3): 473-486.
- Osborne J. y Overbay A. (2004). The power of outliers (and why researchers should always check for them). *Practical Assessment, Research, and Evaluation* 9 (1): 6.
- Osborne J.W., Christianson W.R. y others (2001). Educational Psychology from a Statistician's Perspective: A Review of the Quantitative Quality of Our Field.
- Ottensmann J.R., Payton S. y Man J. (2008). Urban location and housing prices within a hedonic model. *Journal of Regional Analysis and Policy* 38 (1).
- Owusu-Ansah A. (2011). A review of hedonic pricing models in housing research. *Journal of International Real Estate and Construction Studies* 1 (1): 19.
- Özsoy O. y Şahin H. (2009). Housing price determinants in Istanbul, Turkey: An application of the classification and regression tree model. *International Journal of Housing Markets and Analysis*.
- Paass G. (1986). Statistical match: evaluation of existing procedures and improvements by using additional information. *Microanalytic Simulation Models to Support Social and Financial Policy* 401-420.
- Pace K. (1998). Appraisal using generalized additive models. *Journal of Real Estate Research* 15 (1): 77-99.
- Pace R.K. (1995). Parametric, semiparametric, and nonparametric estimation of characteristic values within mass assessment and hedonic pricing models. *The Journal of Real Estate Finance and Economics* 11 (3): 195-217.
- Páez A., Long F. y Farber S. (2008). Moving window approaches for hedonic price estimation: an empirical comparison of modelling techniques. *Urban Studies* 45 (8): 1565-1581.
- Pagano T.P., Loureiro R.B., Lisboa F.V.N., Cruz G.O.R., Peixoto R.M., Sousa Guimarães G.A. de, Santos L.L. dos, Araujo M.M., Cruz M., Oliveira E.L.S. de, Winkler I. y Nascimento E.G.S. (2022). Bias and unfairness in machine learning models: a systematic literature review. <https://arxiv.org/abs/2202.08176>.
- Paige C.C. (1979). Fast numerically stable computations for generalized linear least squares problems. *SIAM Journal on Numerical Analysis* 16 (1): 165-171.
- Palmquist R.B. (1989). Land as a differentiated factor of production: A hedonic model and its implications for welfare measurement. *Land economics* 65 (1): 23-28.
- Pangallo M. y Loberto M. (2018). Home is where the ad is: online interest proxies housing demand. *EPJ Data science* 7 (1): 47.
- Pareja-Eastaway M. y Sánchez-Martínez T. (2017). Social housing in Spain: what role does the private rented market play? *Journal of Housing and the Built Environment* 32 (2): 377-395. <https://doi.org/10.1007/s10901-016-9513-6>.
- Pearson K. (1901). LIII. On lines and planes of closest fit to systems of points in

- space. The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science 2 (11): 559-572. <https://doi.org/10.1080/14786440109462720>.
- Pérez-Rave J.I., Correa-Morales J.C. y González-Echavarría F. (2019). A machine learning approach to big data regression analysis of real estate prices for inferential and predictive purposes. Journal of Property Research 36 (1): 59-96.
- Pérez-Villalta R.A. (2002). ¿Qué es un modelo de superpoblación? Metodología de Encuestas 4 (1): 79-86.
- Piazzesi M., Schneider M. y Stroebel J. (2015). Segmented housing search. National Bureau of Economic Research.
- Pollakowski H.O. (1995). Data sources for measuring house price changes. Journal of Housing Research 377-387.
- Pow N., Janulewicz E. y Liu L. (2014). Applied Machine Learning Project 4 Prediction of real estate property prices in Montréal. Course project, COMP-598, Fall/2014, McGill University.
- Prinzie A. y Van den Poel D. (2008). Random forests for multiclass classification: Random multinomial logit. Expert systems with Applications 34 (3): 1721-1732.
- Quigley J.M. (1995). A simple hybrid model for estimating real estate price indexes. Journal of Housing Economics 4 (1): 1-12.
- Quilis E. (2002). Librería MATLAB de procedimientos de desagregación temporal. INE.
- Quilis E.M. (2018). Temporal disaggregation of economic time series: The view from the trenches. Statistica Neerlandica 72 (4): 447-470.
- Rao J. (1996). On variance estimation with imputed survey data. Journal of the American Statistical Association 91 (434): 499-506.
- Rässler S. (2012). Statistical matching: A frequentist theory, practical applications, and alternative Bayesian approaches. Vol. 168. Springer Science & Business Media.
- Ravikumar P., Liu H., Lafferty J.D. y Wasserman L.A. (2007). SpAM: Sparse Additive Models. En: NIPS. p. 1201-1208.
- Reinsch C.H. (1967). Smoothing by spline functions. Numerische mathematik 10 (3): 177-183.
- Rey D., Arbués P., López F.A. y Páez A. (2023). Using machine learning to identify spatial market segments. A reproducible study of major Spanish markets. Environment and Planning B: Urban Analytics and City Science 0 (0): 23998083231166952. <https://doi.org/10.1177/23998083231166952>.
- Rey-Blanco D., González J. y Sánchez D. (2023a). Relación entre precios de alquiler en portales inmobiliarios y precios de mercado. Evidencias para la Comunidad de Madrid. EURE 0 (0).

- Rey-Blanco D., Zofío J.L. y González J. (2023b). Improving hedonic housing price models by integrating optimal accessibility indices into regression and random forest analyses. *Expert Systems With Applications* 0 (0): 23998083231166952. <https://doi.org/https://doi.org/10.1016/j.eswa.2023.121059>.
- Rico J.R. y Taltavull P. (2021). Machine learning with explainability or spatial hedonics tools? An analysis of the asking prices in the housing market in Alicante, Spain. *Expert Systems with Applications* 171: 114590.
- Robinson P.M. (1988). Root-N-consistent semiparametric regression. *Econometrica: Journal of the Econometric Society* 931-954.
- Rodgers W. (1984). An evaluation of statistical matching. *Journal of Business & Economic Statistics* 2 (1): 91-102.
- Rodríguez López J. (2017). Las viviendas que pudieron hundir la economía española. La caída del mercado de vivienda y sus consecuencias. *Cuadernos de Relaciones Laborales* 35: 71-99. <https://doi.org/10.5209/CRLA.54984>.
- Rodríguez López J. (2019). El mercado de vivienda mantiene el crecimiento en 2019. *Ciudad y Territorio Estudios Territoriales* 51 (201): 623-634.
- Rodríguez López J. (2022b). Mercado de vivienda y coyuntura económica general. *Ciudad y Territorio Estudios Territoriales* 54 (214): 1027-1038. <https://doi.org/10.37230/CyTET.2022.214.13>.
- Rodríguez López J. (2022a). El mercado de vivienda resiste las primeras consecuencias de la guerra de Ucrania. *Ciudad y Territorio Estudios Territoriales* 54 (213): 743-756. <https://doi.org/10.37230/CyTET.2022.213.13>.
- Rodríguez-López J. (2009). Los mercados de vivienda pueden tocar fondo en 2009. *Ciudad y Territorio - Estudios Territoriales* 41: 365-400.
- Rodwin L. (1950). Rent Control and Housing. *Social Research* 302-319.
- Rojo-García J.L. y Sanz-Gómez J.A. (2005). A Bayesian benchmarking method with applications to the Quarterly National Accounts. Luxembourg: Office for Official Publications of the European Communities (ISSN 1725-4825).
- Rojo-García J.L. y Sanz-Gómez J.A. (2017). Benchmarking and reconciliation of time series: An applied Bayesian method. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences* 13 (4): 123.
- Román L. Álvarez, Muñoz P.A., Barceló C., Brunet J., Azofra L.C., Sáez L.C., Ferreira C., Gálvez J., Gómez M., Rodríguez D.L. y others (2020). El mercado de la vivienda en España entre 2014 y 2019. *Documentos ocasionales-Banco de España* (13): 1-53.
- Romero V., Garmendia M., Ureña Francés J.M. de y others (2014). The Spanish Cadastre: office location, morphologies and dynamics in metropolitan Madrid. *Boletín de la Asociación de Geógrafos Españoles*.
- Rosen S. (1974). Hedonic prices and implicit markets: product differentiation in

- pure competition. *Journal of political economy* 82 (1): 34-55.
- Rosenfeld D. (2022). Using real-time indicators for economic decision-making in government.
- Rosenthal L. (1989). Income and price elasticities of demand for owner-occupied housing in the UK: evidence from pooled cross-sectional and time-series data. *Applied Economics* 21 (6): 761-775.
- Roth A.E. (1988). *The Shapley value: essays in honor of Lloyd S. Shapley*. Cambridge University Press.
- Rubin D. (1988). An overview of multiple imputation. En: *Proceedings of the survey research methods section of the American statistical association*. Citeseer, p. 79-84.
- Rubin D. (1996). Multiple imputation after 18+ years. *Journal of the American statistical Association* 91 (434): 473-489.
- Rubin D.B. (1976). Inference and missing data. *Biometrika* 63 (3): 581-592.
- Ruggles N. y Ruggles R. (1974). A strategy for merging and matching microdata sets. En: *Annals of Economic and Social Measurement*, Volume 3, number 2. NBER, p. 353-371.
- Rull J.S. (2018). Consecuencias jurídicas del desistimiento anticipado por parte del arrendatario de un contrato de arrendamiento de inmueble urbano. *Revista Crítica de Derecho Inmobiliario* 94 (765): 211-235.
- Sakia R.M. (1992). The Box-Cox transformation technique: a review. *Journal of the Royal Statistical Society: Series D (The Statistician)* 41 (2): 169-178.
- Samardzhiev K., Fleischmann M., Arribas-Bel D., Calafiore A. y Rowe F. (2022). Functional signatures in Great Britain: A dataset. *Data in Brief* 43: 108335. <https://doi.org/https://doi.org/10.1016/j.dib.2022.108335>.
- Sánchez-Crespo G. (2002). Introducción a los modelos de superpoblación en las técnicas de muestreo con probabilidades desiguales. *Metodología de Encuestas* (1): 87-104.
- Särndal C.-E. (2007). The calibration approach in survey theory and practice. *Survey methodology* 33 (2): 99-119.
- Särndal C.E. (1980). On π -inverse weighting versus best linear unbiased weighting in probability sampling. *Biometrika* 67 (3): 639-650.
- Särndal C.-E. y Lundström S. (2008). Assessing auxiliary vectors for control of nonresponse bias in the calibration estimator. *Journal of Official Statistics* 24 (2): 167.
- Särndal C.-E., Swensson B. y Wretman J. (2003). *Model assisted survey sampling*. Springer Science & Business Media.
- Sax C. y Steiner P. (2013). Temporal Disaggregation of Time Series. *The R Journal* 5 (2): 80-87. <https://doi.org/10.32614/RJ-2013-028>.

- Sayal H., Aston J.A., Elliott D. y Ombao H. (2017). An introduction to applications of wavelet benchmarking with seasonal adjustment. *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 180 (3): 863-889.
- Scanu M. (2010). Recommendations on statistical matching, Report WP2, ESS-net. Statistical Methodology Project on Integration of Surveys and Administrative Data.
- Schafer J. y Graham J. (2002). Missing data: our view of the state of the art. *Psychological methods* 7 (2): 147.
- Schafer J. y Olsen M. (1998). Multiple imputation for multivariate missing-data problems: A data analyst's perspective. *Multivariate behavioral research* 33 (4): 545-571.
- Schapire R.E. (1990). The strength of weak learnability. *Machine learning* 5 (2): 197-227.
- Scher S. y Peßenteiner S. (2021). Temporal disaggregation of spatial rainfall fields with generative adversarial networks. *Hydrology and Earth System Sciences* 25 (6): 3207-3225.
- Schubert E. y Rousseeuw P.J. (2019). Faster k-medoids clustering: improving the PAM, CLARA, and CLARANS algorithms. En: *International conference on similarity search and applications*. Springer, p. 171-187.
- Schwager S. y Margolin B. (1982). Detection of multivariate normal outliers. *The annals of statistics* 10 (3): 943-954.
- Schwert G.W. (1989). Tests for Unit Roots: A Monte Carlo Investigation. *Journal of Business & Economic Statistics* 7 (2): 147-159.
- Selim H. (2009). Determinants of house prices in Turkey: Hedonic regression versus artificial neural network. *Expert systems with Applications* 36 (2): 2843-2852.
- Seni G. y Elder J. (2010). Ensemble methods in data mining: improving accuracy through combining predictions. *Synthesis lectures on data mining and knowledge discovery* 2 (1): 1-126.
- Shiller R.J. (1991). Arithmetic repeat sales price estimators. *Journal of Housing Economics* 1 (1): 110-126.
- Shiller R.J. (2007b). Low interest rates and high asset prices: An interpretation in terms of changing popular economic models.
- Shiller R.J. (2007a). Understanding recent trends in house prices and home ownership. National Bureau of Economic Research.
- Shiller R.J. (2008). Derivatives markets for home prices. National Bureau of Economic Research.
- Shimizu C., Nishimura K. y Watanabe T. (2016). House prices at different stages of the buying/selling process. *Regional Science and Urban Economics* 59: 37-53.

- Silva J.S. y Cardoso F. (2001). The Chow-Lin method using dynamic models. *Economic modelling* 18 (2): 269-280.
- Similarweb (2022). Clasificación de sitios de internet más visitados de España para diciembre de 2022. <https://www.similarweb.com/top-websites/spain>.
- Simon N., Friedman J., Hastie T. y Tibshirani R. (2011). Regularization Paths for Cox's Proportional Hazards Model via Coordinate Descent. *Journal of Statistical Software* 39 (5): 1-13. <https://doi.org/10.18637/jss.v039.i05>.
- Simon W. (2017). *Generalized Additive Models: An Introduction with R*. 2.^a ed. Chapman; Hall/CRC.
- Sirmans S., Macpherson D. y Zietz E. (2005). The composition of hedonic pricing models. *Journal of real estate literature* 13 (1): 1-44.
- Small K.A. y Song S. (1994). Population and employment densities: structure and change. *Journal of urban economics* 36 (3): 292-313.
- Smith L.B. y Tomlinson P. (1981). Rent controls in Ontario: roofs or ceilings? *Real Estate Economics* 9 (2): 93-114.
- Steurer M., Hill R.J. y Pfeifer N. (2021). Metrics for evaluating the performance of machine learning based automated valuation models. *Journal of Property Research* 38 (2): 99-129.
- Stevens J.P. (1984). Outliers and influential data points in regression analysis. *Psychological bulletin* 95 (2): 334.
- Stevenson S. (2004). New empirical evidence on heteroscedasticity in hedonic housing models. *Journal of Housing Economics* 13 (2): 136-153.
- Stewart J.Q. (1947). Empirical mathematical rules concerning the distribution and equilibrium of population. *Geographical review* 37 (3): 461-485.
- Stigler G.J. (1961). Economic problems in measuring changes in productivity. En: *Output, input, and productivity measurement*. Princeton University Press, p. 47-78.
- Stock J.H. (1989). Nonparametric policy analysis. *Journal of the American Statistical Association* 84 (406): 567-575.
- Stone R. (1956). *Quantity and Price Indices in National Accounts*, esp. Chap.
- Strobl C., Boulesteix A.-L., Zeileis A. y Hothorn T. (2007). Bias in random forest variable importance measures: Illustrations, sources and a solution. *BMC bioinformatics* 8 (1): 25.
- Struijs P. y Daas P. (2014). Quality approaches to big data in official statistics. En: *European Conference on Quality in Official Statistics*.
- Syed I.A. y De Haan J. (2017). Age, time, vintage, and price indexes: measuring the depreciation pattern of houses. *Economic Inquiry* 55 (1): 580-600.
- Tan P.-N., Steinbach M., Karpatne A. y Kumar V. (2018). *Introduction to Data Mining* (2nd Edition). 2nd ed. Pearson.

- Taylor J. y Einbeck J. (2013). Challenging the curse of dimensionality in multivariate local linear regression. *Computational Statistics* 28: 955-976.
- Theil H. (1967). *Economics and information theory*. North-Holland.
- Thériault M., Des Rosiers F. y Joerin F. (2005). Modelling accessibility to urban services using fuzzy logic: A comparative analysis of two methods. *Journal of Property Investment & Finance* 23 (1): 22-54.
- Therneau T., Atkinson B., Ripley B. y Ripley M.B. (2015). Package rpart. Available online: cran.ma.ic.ac.uk/web/packages/rpart/rpart.pdf (accessed on 20 April 2016).
- Thibodeau T.G. (1995). House price indices from the 1984-1992 MSA American Housing Surveys. *Journal of Housing Research* 439-481.
- Tietjen G.L. y Moore R.H. (1972). Some Grubbs-type statistics for the detection of several outliers. *Technometrics* 14 (3): 583-597.
- Tillé Y. y Matei A. (2016). sampling: Survey Sampling. <https://CRAN.R-project.org/package=sampling>.
- Tinsa (2023). Precio de la vivienda en España. <https://www.tinsa.es/precio-vivienda/>.
- Triplett J.E. (1996). The importance of using superlative index numbers. En: CSO Meeting on Chain Indexes for GDP, London, Vol. 26.
- Truong Q., Nguyen M., Dang H. y Mei B. (2020). Housing price prediction via improved machine learning techniques. *Procedia Computer Science* 174: 433-442.
- Tucat Pablo L.M. (2021). Políticas de oferta para mejorar el acceso a la vivienda de alquiler e España. ESADE. <https://www.esade.edu/ecpol/es/publicaciones/politicas-de-oferta-para-mejorar-el-acceso-a-la-vivienda-de-alquiler-en-espan%CC%83a/>.
- Tukey J.W. (1953). The problem of multiple comparisons. *Multiple comparisons*.
- Turnbull G.K. (1990). The pure theory of household location an axiomatic approach. *Journal of Regional Science* 30 (4): 549-562.
- Uber Inc. (2018). H3: A hexagonal hierarchical geospatial indexing system. <https://uber.github.io/h3/#/>.
- Ulbl M., Verbič M., Lisec A. y Pahor M. (2021). Proposal of real estate mass valuation in Slovenia based on generalised additive modelling approach. *Geodetski Vestnik* 65 (1).
- UNECE (2015). Using administrative and secondary sources for official statistics: A handbook of principles and practices. United Nations Economic Commission for Europe.
- Valier A. (2020). Who performs better? AVMs vs hedonic models. *Journal of property investment & finance*.

- Van Buuren S. (2018). Flexible imputation of missing data. CRC press.
- Van Der Maaten L., Postma E., Van den Herik J. y others (2009). Dimensionality reduction: a comparative. *J Mach Learn Res* 10 (66-71).
- Vangrevelinghe G. (1966). L'évolution à court terme de la consommation des ménages: connaissance, analyse et prévision. *Economie et Statistique* 21 (9): 59-102.
- Vecchio G. y Martens K. (2021). Accessibility and the Capabilities Approach: a review of the literature and proposal for conceptual advancements. *Transport Reviews* 41 (6): 833-854.
- Verikas A., Lipnickas A. y Malmqvist K. (2002). Selecting neural networks for a committee decision. *International Journal of Neural Systems* 12 (5): 351-361.
- Von Thünen J.H. (1826). El estado aislado.
- Waddell P., Berry B.J. y Hoch I. (1993). Residential property values in a multinodal urban area: New evidence on the implicit price of location. *The Journal of Real Estate Finance and Economics* 7 (2): 117-141.
- Wagner C.H. (1982). Simpson's paradox in real life. *The American Statistician* 36 (1): 46-48.
- Wainer H. (1976). Robust statistics: A survey and some prescriptions. *Journal of Educational Statistics* 1 (4): 285-312.
- Wang X., Li K. y Wu J. (2020). House price index based on online listing information: the case of China. *Journal of Housing Economics* 50: 101715.
- Wang X., Wang X. y Wilkes M. (2021). New developments in unsupervised outlier detection. Springer.
- Watson G.S. (1964). Smooth regression analysis. *Sankhyā: The Indian Journal of Statistics, Series A* 359-372.
- Wee G.P. van y Vickerman R. (2021). Transport Modes and Accessibility. En: *International Encyclopedia of Transportation*, Vol. 5. Elsevier.
- Wenzlick R. (1952). As I see the fluctuations in the selling prices of single family residences. *The Real Estate Analyst* 21: 541-548.
- Wilkinson R. (1974). The Determinants of Relative House Prices: a case of academic astigmatism? *Urban Studies* 11 (2): 227-230.
- Wingo L. (1961). An economic model of the utilization of urban land for residential purposes. 7 (1): 191-205.
- Winter E. (2002). The shapley value. *Handbook of game theory with economic applications* 3: 2025-2054.
- Witte A.D., Sumka H.J. y Erekson H. (1979). An estimate of a structural hedonic price model of the housing market: an application of Rosen's theory of implicit markets. *Econometrica: Journal of the Econometric Society* 1151-1173.
- Wong D.W. (2004). The modifiable areal unit problem (MAUP). *WorldMinds*:

- geographical perspectives on 100 problems: commemorating the 100th anniversary of the association of American geographers 1904-2004 571-575.
- Wood S.N., Goude Y. y Shaw S. (2015). Generalized additive models for large data sets. *Journal of the Royal Statistical Society: Series C (Applied Statistics)* 64 (1): 139-155.
- Wood S.N., Li Z., Shaddick G. y Augustin N.H. (2017). Generalized additive models for gigadata: modeling the UK black smoke network daily data. *Journal of the American Statistical Association* 112 (519): 1199-1210.
- Worzala E., Lenk M. y Silva A. (1995). An exploration of neural networks and its application to real estate valuation. *Journal of Real Estate Research* 10 (2): 185-201.
- Wright M.N. y Ziegler A. (2015). ranger: A fast implementation of random forests for high dimensional data in C++ and R. arXiv preprint arXiv:1508.04409.
- Wu C. y Sitter R. (2001). A model-calibration approach to using complete auxiliary information from survey data. *Journal of the American Statistical Association* 96 (453): 185-193.
- Wu Y., Wei Y.D. y Li H. (2020). Analyzing spatial heterogeneity of housing prices using large datasets. *Applied Spatial Analysis and Policy* 13 (1): 223-256.
- Wyngarden H. (1927). *An Index of Local Real Estate Prices*. University of Michigan, School of business administration.
- Xiao Y., Chen X., Li Q., Yu X., Chen J. y Guo J. (2017). Exploring determinants of housing prices in Beijing: An enhanced hedonic regression with open access POI data. *ISPRS International Journal of Geo-Information* 6 (11): 358.
- Yang Y. (2007). Consistency of cross validation for comparing regression procedures. *The Annals of Statistics* 35 (6): 2450-2473.
- Yatchew A. (1997). An elementary estimator of the partial linear model. *Economics letters* 57 (2): 135-143.
- Zaier L.H. y Abed M. (2014). Temporal Disaggregation of Economic Time Series using Artificial Neural Networks. *Communications in Statistics-Theory and Methods* 43 (8): 1824-1833.
- Zani S. (1970). Sui criteri di calcolo dei valori trimestrali di tendenza degli aggregati di contabilità nazionale. *Studi e Ricerche, Facoltà de Economia e Commercio, Università degli Studi di Parma* 7: 285-349.
- Zhang G. y Lu Y. (2012). Bias-corrected random forests in regression. *Journal of Applied Statistics* 39: 151-160. <https://doi.org/10.1080/02664763.2011.578621>.
- Zhang L.C. y Nguyen N. (2020). An appraisal of common reweighting methods for nonresponse in household surveys based on Norwegian Labour Force Survey and Statistics on Income and Living Conditions Survey. *Journal of Official*