

Journal of Agricultural and Resource Economics Style Guide

General

Submitted manuscripts should be no longer than 35 pages (including the references, tables, and figures, and appendices).

The *Journal of Agricultural and Resource Economics* follows the *Chicago Manual of Style*, 17th ed., by the University of Chicago Press and *Garner's Modern English Usage* for style, grammar, and punctuation. The journal uses American English (US) spelling, style, and grammatical conventions. Where not addressed directly, defer to Webster's Third New International Dictionary for correct spelling. The following are commonly queried or commonly confused points.

- Manuscript is double-spaced.
- All tables and figures are supplied on separate pages at the back of the manuscript.
- Appendices are supplied after the tables and figures.
- Online supplementary materials are supplied as a separate file (.docx or .tex).
- Each author has completed the [JARE author agreement](#).

Title Page

The title page should include the following items:

Title

A precise, concise description of results gathered and/or analysis performed.

- Avoid useless words and phrases (e.g., “influence of,” “effect on,” “evaluation of,” “results of,” “impact of,” etc.).
- Do not include any acronyms or abbreviations.
- Capitalize the first and last words of the title.
- Capitalize all other words except for articles (e.g., “a,” “the”), conjunctions (e.g., “and,” “but,” “or”), and prepositions (e.g., “in,” “on,” “after,” “of”) unless they are used adjectivally or adverbially (e.g., “Look Up,” “Turn Down”) or used in pairs (e.g., “With or Without,” “Above and Below”).
- Capitalize the second half of hyphenated words (e.g., “Spatial-Dynamic Benefits,” not “Spatial-dynamic Benefits”) unless the first half is a prefix (e.g., “Re-estimate,” not “Re-Estimate”).

JARE Style Guide

Running Title

An abbreviated version of the title, no more than 40 characters.

Author Names

The full name(s) of the author(s), on one line, separated by commas. Do not include degree abbreviations, professional titles, or contact information.

Author Affiliations

Each author's full name followed by position title, departmental affiliation (if relevant), and university or other organization. Do not include mailing address or telephone number.

- Authors should be presented in the same order as listed above.
- Do not capitalize position titles.
- Capitalize department and university name (or company name if relevant).
- Indicate corresponding author parenthetically after the author's name.
- Include email address for the corresponding author only.

For example:

“Marion W. Gushee (corresponding author, mwg382@wtam.edu) is an assistant professor of agricultural business and economics in the Department of Agricultural Science at Western Texas A&M University.”

In some cases, it may be preferable to indicate authors' affiliation at the time the work was produced:

“B. Mae Tayntor is a former graduate student in the Department of Agricultural and Applied Economics, University of Georgia.”

Acknowledgments

Including conflicts of interest, credit, acknowledgment, or thanks for material or informational assistance. Acknowledge any USDA or other funding source, including grant or project number(s).

Use first person and full names (e.g., “We thank Karl Johnson for his many insights.”). Do not include titles (e.g., Dr., Prof., secretary), formal address (e.g., Mr., Mrs., Miss, Ms.), or degree abbreviations (e.g., PhD, MD).

Abstract Page

Include an abstract of up to 100 words, followed by up to eight key words.

Title

Repeat the title of the manuscript at the top of the abstract page.

Abstract

A concise, self-explanatory, summary of the article, no more than 100 words. Do not include citations, footnotes, or references to tables and figures in the abstract. Do not include references unless absolutely necessary.

Additional Keywords

A list of up to eight keywords or phrases not already used in the title. Choose keywords to indicate the content and/or method of the manuscript. Avoid general or broad words and phrases such as “yield” or “growth.” Keywords should not repeat words or phrases that appear in the title.

Article Text

Begin the manuscript at the top of a new page. Suggested manuscript length is no more than 35 pages (including references, tables, and figures). The text should be single-column format, 12-point Times New Roman font, double-spaced—including footnotes and references. Allow 1” margins on all sides. Do not justify right margins or use end-of-line hyphenation features.

Headings

Provide concise, descriptive headings for each section and subsection. *JARE* does not prescribe specific headings (e.g., “Materials and Methods,” “Results and Discussion”). The introduction should include a heading (“Introduction” is acceptable).

Headings (12-point font) should use title case (see guidelines for the article title).

- Level 1: Centered, bold
- Level 2: Left-justified, italicized
- Level 3: Left-justified, plain typeface

Footnotes

- Use superscript Arabic numbers within the text, numbered consecutively.
- Place footnotes at the bottom of the page on which the footnote is referenced.
- If using Microsoft Word, use the automatic footnote feature.

Equations and Math Notation

JARE follows the National Institute of Standards and Technology guidelines for typefaces for symbols in scientific manuscripts (see <https://physics.nist.gov/cuu/pdf/typefaces.pdf>). Use *italic* typeface for variables and ***italic boldface*** for vectors and matrices—both within equations and within the text.

- Display all but very short mathematical expressions centered and on a separate line.

- Label all display equations on the left margin with consecutive Arabic numerals in parentheses.
- Equations referenced in the text must be labeled and the equation number enclosed in parentheses (e.g., “equation (5),” “equilibrium (2)”). Do not capitalize “equation.”
- Under no circumstances should equations use “Symbol” font. These will need to be rewritten by the authors.

Citations

- Papers submitted using LaTeX *must* include a .bib file or equivalent and use the `\cite{}` command.
- All citations in the text must be included in the references, and all references must be mentioned in the text.
- Parenthetical citations should use the author(s) name, followed by a comma and the year of publication (Johnson, 1992).
- Separate multiple parenthetical citations using semicolons (e.g., Johnson, 1992; Bekkerman, 2003).
- Use “et al.” (no italics, note punctuation) for sources with four or more authors (Smith et al., 2007). For sources with three or fewer authors, write out all of the authors’ names in the text.
- When listing two or more citations parenthetically in the text, list chronologically first, then alphabetically if necessary (e.g., “Jones and Perkins, 1996; Kader, 2001; Smith, 2001”).
- When one author or set of authors has more than one publication in a year, use “a,” “b,” “c,” etc. to distinguish (e.g., “USDA, 2017a,” “USDA, 2017b,” “USDA, 2017a,b,” “Johnson, 1996b”).
- Quotations must appear exactly as written in the original published work (misspellings in the original work must be included as written and followed by “[sic]”).

References

Begin the reference section on a separate page. All citations in the text must be included in the references, and all references must be mentioned in the text. Check the reference list against literature citations in the text before submitting the manuscript for publication. Papers submitted using LaTeX *must* include a .bib file or equivalent and use the `\cite` command.

For authors using citation management software (e.g., Zotero, Mendeley), a .csl style file can be downloaded [here](#). Search for *Journal of Agricultural and Resource Economics*.

JARE Style Guide

- Unpublished data or information received personally should be noted parenthetically rather than cited [e.g., “(R.L. Johnson, unpublished data)” or “(A. Bekkerman, personal communication)”].
- Do not abbreviate departments, journal titles (e.g., “*Journal of Agricultural and Resource Economics*,” not “*J. Agr. Res. Econ.*”), or agencies (e.g., “US Department of Agriculture,” not “USDA”).
- When page numbering is not continuous throughout the volume of a serial publication (e.g., journals), issue numbers are always given along with page numbers. Otherwise, issue numbers may be included at the authors’ option, though they are preferred by the journal.
- For US cities, include 2-digit state abbreviation (e.g., “New York, NY,” “Boston, MA”). For international cities, include full name of city and country (e.g., “Amsterdam, Netherlands,” “Toronto, Canada”).
- Where relevant, give full pagination (e.g., “1101–1102,” not “1101–2” or “1101–02”).

Author Names

List references alphabetically by authors’ name, then chronologically (if an author or group of authors has more than one listed source).

- Do not use ampersands (&) in a list of authors. Instead, use the word “and.”
- Do not use “et al.” in the reference section. Write out all of the listed authors.
- One author:
Bekkerman, A.L.
- Two authors:
Bekkerman, A.L., and R.S. Johnson
- Three or more authors:
Bekkerman, A.L., R.S. Johnson, and M.W. Gourley

Do not abbreviate corporate or organizational authors or publishers/organizations:

- Centers for Disease Control (not CDC),
- US Department of Agriculture (not USDA).

Where the author and publisher/organization are identical, the publisher name may be abbreviated.

DOIs and Web Addresses

Where available (generally for journal articles and some books/book chapters), DOIs (digital object identifiers) *must* be included.

Web addresses should only be included if the information would otherwise be difficult to find or access or is liable to change (as in databases). Where a web address is given and does *not* refer to a pdf, a date of access is necessary. A web address is never necessary if a DOI is available.

Examples

Article in an Academic Journal

Richards, T. J., and S. F. Hamilton. 2012. "Obesity and Hyperbolic Discounting: An Experimental Analysis." *Journal of Agricultural and Resource Economics* 37(2): 181–198. doi: 10.22004/ag.econ.134219.

Forthcoming Article

Bekkerman, A., and D.K. Weaver. 2018. "Modeling Joint Dependence of Managed Ecosystems Pests: The Case of the Wheat Stem Sawfly." *Journal of Agricultural and Resource Economics*, forthcoming.

Book

Use the shortest version of the publisher name possible (e.g., "Elsevier" rather than "Elsevier Scientific," "Wiley" rather than "John Wiley & Sons, Ltd."). In cases of university presses, use the full name (e.g., "Cambridge University Press," "MIT Press," "University Press of New England").

Constantinides, G., M. Harris, and R. Stulz, eds. *Handbook of the Economics of Finance*, Volume 1B: Financial Markets and Asset Pricing. Amsterdam, Netherlands: North-Holland.

Greene, W. H. 2003. *Econometric Analysis*. 5th ed. Upper Saddle River, NJ: Prentice Hall.

Book Chapter

Camerer, C. F. 1992. "Recent Tests of Generalizations of Expected Utility Theory." In W. Edwards, ed. *Utility Theories: Measurements and Applications*. Dordrecht, Netherlands: Springer, pp. 207–251. doi: 10.1007/978-94-011-2952-7_9.

Stohs, S. M., and J. T. LaFrance. "A Learning Rule for Inferring Local Distributions over Space and Time." In J. P. LeSage and R. K. Pace, eds., *Spatial and Spatiotemporal Econometrics*. Advances in Econometrics 18. Amsterdam, Netherlands: Elsevier, pp. 295–331.

Conference Paper

Ward, C. E., M. K. Vestal, and Y. Lee. 2014. "Relationships between Alternative Marketing Arrangement Prices for Fed Cattle and Hogs, 2001–2013." Paper presented at the annual meeting of the Western Agricultural Economics Association, Colorado Springs, CO, June 22–24.

Xie, J., Z. Gao, and L. House. 2013. "The Puzzle of Valuation Gaps Between Experimental Auction and Real Choice Experiments: Do Purchase Intention and Price Bargaining

Preference Matter?” Paper presented at the annual meeting of the Agricultural and Applied Economics Association, Washington, DC, August 4–6.

Dissertation or Thesis

Meas, T. 2014. *The Effects of Country of Origin Image and Patriotism on Consumer Preference for Domestic Versus Imported Beef*. Master’s Thesis. Lexington, KY: University of Kentucky.

Zapata, S. D. 2012. *The Theoretical Structure of Producer Willingness to Pay Estimates, in Three Essays on Contingent Valuation*. Ph.D Dissertation. Clemson, SC: Clemson University.

Government Report

Where an individual author is not identified, use the department or center as the corporate author. Credit the service, office, or agency in the publisher position.

Agence de l’Eau. 2013. *Qualité des Eaux et Produits Phytosanitaires sur le Bassin Adour-Garonne: Situation 2012*. Toulouse, France: Agence de l’Eau Adour-Garonne. Available online at <http://www.eau-adour-garonne.fr/fr/toute-l-actualite/annee-2013/e-trimestre-2013/contamination-pesticides.html>.

Agriculture and Agri-Food Canada. 2013. *Canadian Farm Fuel and Fertilizer: Prices and Expenses*. Market Outlook Report 5(1). Winnipeg, Canada: Agriculture and Agri-Food Canada.

Ainslie, C. 1929. *The Western Grass-Stem Sawfly: A Pest of Small Grains*. Technical Bulletin 157. Washington, DC: US Department of Agriculture, Bureau of Entomology.

Centers for Disease Control and Prevention. 2003. *National Health and Nutrition Examination Survey*. Washington, DC: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Available online at <https://www.cdc.gov/nchs/nhanes/index.htm> [Accessed Jan. 10, 2014].

Carlson, A., and E. Frazao. 2012. *Are Healthy Foods Really More Expensive? It Depends on How You Measure the Price*. Economic Information Bulletin EIB-96. Washington, DC: US Department of Agriculture, Economic Research Service.

Howden, L., and J. Meyer. 2011. *Age and Sex Composition: 2010*. Census Brief C2010BR–03. Washington, DC: US Department of Commerce, Bureau of the Census.

UK Department for Environment, Food and Rural Affairs. 2002. *Origin of the UK Foot and Mouth Disease Epidemic in 2001*. London, UK: DEFRA.

US Department of Agriculture. 2008. *U.S. Agriculture and Forestry Greenhouse Gas Inventory: 1990–2005*. Technical Bulletin 1921. Washington, DC: USDA, Office of the Chief Economist, Global Change Program Office.

Magazine and Newspaper Articles

Where available, include volume, issue, and pagination information. Otherwise, include web address and access date.

Atkins, E. 2014. "Grain Farmers Growing Their Debt Loads in Wake of Rail Backlog." *Globe and Mail*. Available online at <https://www.theglobeandmail.com/report-on-business/grain-farmers-growing-their-debt-loads-in-wake-of-rail-backlog/article18047592/> [Accessed Sep. 2, 2016].

Cummings, I. 2012. "Horse Slaughter: Company Picks New Location for Plant, with Different Result." *Kansas City Star*: A1.

Newport, A. 2013. "Surprising Factors Can Affect Auction Prices for Beef Calves." *Prairie Farmer*. Available online at <http://www.beefproducer.com/story-surprising-factors-affect-auction-prices-beef-calves-14-102247> [Accessed May 23, 2017].

Reyes, L. C. 2009. "Overcoming the Toughest Stress in Rice: Drought." *Rice Today* 8(3): 30–32.

Non-Government Report

Hillers, V. N. 2005. *Storing Foods at Home*. Extension Publication EB1205. Pullman, WA: Washington State University.

World Trade Organization. 2012. *United States — Certain Country of Origin Labelling (COOL) Requirements*. Dispute Settlement DS384. Geneva, Switzerland: World Trade Organization.

Software

SAS Institute, Inc. 2013. *SAS Systems for Windows* 6.1. Cary, NC: SAS Institute, Inc.

Working Paper

Amir, R. 2003. "Supermodularity and Complementarity in Economics: An Elementary Survey." CORE Discussion Paper No. 2003/104. Tucson, AZ: University of Arizona. Available online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=981364.

Athey, S., and S. Stern. 1998. "An Empirical Framework for Testing Theories about Complementarity in Organizational Design." NBER Working Paper 6600. doi: 10.3386/w6600.

Website

US Census Bureau. 2012. "Foreign Trade Statistics." Washington, DC: US Department of Commerce. Available online at <http://www.census.gov/foreign-trade/statistics/index.html> [Accessed Jul. 18, 2013].

US Department of Agriculture. 2017. "Quick Stats." Washington, DC: US Department of Agriculture, National Agricultural Statistical Service. Available online at http://www.nass.usda.gov/Quick_Stats/ [Accessed Dec. 29, 2017].

Tables

For accepted manuscripts submitted in .doc(x) format, place each table on a separate page following the references. Additionally, supply each table as a separate spreadsheet (one table per sheet) in an Excel workbook. Present only the data that should be formatted for print. In LaTeX documents, either embed tables where they are cited or place them after the references.

- Number tables consecutively using Arabic numerals in the order in which they appear in the text. All tables must be referred to in the text.
- Capitalize the word “Table” when citing (e.g., “Table 1,” not “table 1”).

Tables should be self-contained and complement, not duplicate, information contained in the text. That is, there are sufficient notes and labels to allow readers to understand the information in the table with minimal need to reference the text.

- Tables should never be included as an image file.
- Use minimal formatting. Do not use vertical lines to separate columns.
- Each table must have a consistent number of decimal places. In cases where more than four decimal points are required, scientific notation is preferred.
- Capitalize table and column titles according to the rules for the manuscript title.
- Column headings should be brief, with units of measurement in parentheses. Parenthetical information in column titles (such as measurements) should be lowercase.
- Column titles should be bold.
- All headings are separated by a horizontal rule from tabular material.
- All other text (including row labels) should be capitalized in sentence style (only the first word capitalized).
- Do not use bold, italic, or underlined text in row labels except where necessary indicate variables, vectors, etc.
- Each cell should contain a single row of data (e.g., do not include a coefficient and its standard deviation in the same cell. Each figure should have its own cell).

Place explanatory matter, including definitions of abbreviations, in a notes section beneath the table. The table, title, and notes must be concise and understandable without reference to the text. If data come from another published or unpublished paper, the original source should be cited in the notes. Use the following standard language to indicate significance:

- “Single, double, and triple asterisks (*, **, ***) indicate [statistical] significance at the 10%, 5%, and 1% level.”
- Use the notes section to explain parentheses, brackets, footnotes, abbreviations, or data descriptions used in each table.
- Use lowercase English letters (a,b,c, etc.) to attach footnotes to specific items within the table. Place the footnotes below the table notes.

Figures

For accepted manuscripts submitted in .doc(x) format, place each figure on a separate page following the references. Additionally, supply individual image files (acceptable formats are .PNG, .PDF, and .JPG). Individual image files should be of high resolution. In LaTeX documents, either embed tables where they are cited or place them after the references.

- Unless otherwise requested, color figures will be printed in greyscale. Figures should be readily interpreted when printed in black and white. Figures can be printed in color for a nominal charge. Please correspond with the Publications Editor for more information.
- Individually submitted figures should be no more than 5 inches wide.
- All text within the image must be Times New Roman, not bold or italic. Axis titles are 12-point font, sentence case. Axis labels are 10-point font, lowercase. Legends are either 10- or 12-point font, whichever works better.
- Figure background should be white, and the figure should not have a border.
- Do not place figure title or caption within the figure image.

Number figures consecutively using Arabic numerals in the order in which they appear in the text. All figures must be cited in the text. Capitalize the word “Figure” when citing (e.g., “Figure 3,” not “figure 3”).

- Figure titles should be concise and capitalized according to the rules for the manuscript title.
- General explanatory notes: Use the heading “Notes:” and continue on the same line with the first word of the note, in paragraph form.
- If data come from another published or unpublished paper, use the heading “Source:” and continue on the same line with the first word of the note. It is not necessary to cite “authors’ calculations” (or similar) as a source.

Appendices and Supplementary Materials

Appendices and supplementary materials may be submitted with the manuscript. Appendices will appear in print and should include information that may be needed to understand the assumptions and/or conclusions discussed in the manuscript but that are too long to include in the main text. Examples include short mathematical proofs, variable description tables, and additional results tables, among others.

- Place appendices after the tables and figures in the main text document.
- Multiple appendices are A, B, etc.
- Reference each appendix at least once in the text.

Supplementary materials are those that may interest and be of import to readers but are not necessary to understand the assumptions and/or conclusions of the manuscript. Examples include

lengthy mathematical derivations, tables with robustness results, and survey instruments, among others.

- Supply supplementary online information as a separate file.
- Refer to tables and figures in the text as Table S1, figure S2, etc., or more generally as “the online supplement (see www.jareonline.org).”
- The article should use and cite online supplementary material rather than simply tell readers that supplementary materials are available upon request.
- Style of online supplementary material follows the guidelines for articles.
- Online supplements will not be copy edited.
- Color figures are acceptable in supplemental material.

Style, Grammar, and Punctuation

Dates

- Spell out and lowercase centuries (e.g., twentieth century).
- Spell out and capitalize names of days (e.g., Sunday, Monday) and months (e.g., December, July).
- When indicating a specific date, use day-month-year (e.g., January 1, 2000). Set off year with commas.
- When indicating a specific month and year, do not separate the year by a comma (e.g., January 2000).
- When referring to a span of years, use the full four-year date (e.g., 1994–2004, 1979–1983).
- When referring to a decade, add an s without an apostrophe (e.g., 1980s)

Numbers

As a general rule, use Arabic numerals for whole numbers. Use Arabic numerals with a unit or abbreviation of measure, including currency, proportions, rates, temperatures, percentages, dates, time, pages, and numerical designations such as “model 3.” Use Arabic numerals for all mathematics where symbols are used, where arithmetic function is discussed (e.g., “divide by 6,” “less than 1,” “significantly different from 0”), and where exponents are used (e.g., 10^{10}). Spell out numbers in the following cases:

- when the number is below 10 and immediately precedes a non-SI or non-English unit of measure (e.g., “two plants” but “2 m,” “three trees” but “3 ha”);
- when a number is used as a figure of speech (e.g., “a thousand times no”);

JARE Style Guide

- when numbers begin sentences (reword sentences where possible to avoid starting with a number or a series of numbers, or end the preceding sentence with a semicolon).

Other numerical issues to keep in mind:

- Use a comma in numerals of four or more digits (e.g., 1,000; 12,382).
- For decimal fractions less than 1.00, use a zero in the whole-number position (e.g. 0.01).
- Follow the same rules as for whole numbers when using ordinals (1st year, but first survey). Do not use superscripts for ordinal numbers (e.g., 1st, not 1st).
- Use numerals for percentages (unless the percent falls at the beginning of the sentence); the word “percent” should always be a symbol (%). Repeat the percentage sign when indicating a range (e.g., 3% to 5%, 3%–5%).
- Where series in the text are numbered, use i), ii), iii), etc.
- Spell out fractions when they stand alone (note hyphen) (e.g., “one-third,” “one-half,” and “two-fifths”).
- When describing binary variables, use numerals 1 and 0.

Capitalization

Capitalization should follow standard rules of English. Only capitalize titles when they immediately precede a personal name (e.g., “Director of Operations Andrew Jones,” but “Andrew Jones, director of operations”).

Capitalize the first word of a full sentence after a colon. Do not capitalize numerical designations such as “model 2,” “experiment 4,” etc.

- Uppercase Table X, Panel X, Figure X, Graph X, Theorem X, Lemma X, Hypothesis X, Assumption X, Proposition X (no parentheses).
- Lowercase model X, column X (no parentheses), equation (x), equilibrium (x) (use parentheses).

Punctuation

- Avoid contractions (e.g., can’t, won’t, it’s). Instead, write out (e.g., cannot, will not, it is).

Colon

- Use a colon after “follows” or “following” when introducing a list or thought (e.g., “The expected utility model is as follows:”)

Comma

- Use the serial (i.e., Oxford) comma (e.g., “Crops studied include apple, pear, and cherry.”)

- Which introduces nonrestrictive clauses and is preceded by a comma; that introduces restrictive clauses and is not preceded by a comma (e.g., “the production practice that farmers use extensively” vs. “this production practice, which farmers use extensively, degrades stream quality”).
- A comma should not precede the word “because” unless omitting it would cause confusion (as is sometimes the case when the primary clause is negative). Refer to <http://www.chicagomanualofstyle.org/qanda/data/faq/topics/Commas/faq0018.html>.

En-dash

- Use en-dash (–) to connect two (juxtaposed, separate) ideas or items, rather than a hyphen (as in a compound adjective). In Word, an en-dash is created using the Ctrl+minus keyboard shortcut.
- Use en-dash for inclusive dates (e.g., July 3–5).
- Use an en-dash in place of a hyphen in a compound adjective when one of its elements consists of an open compound or when both elements consist of hyphenated compounds (e.g., “pre–World War II,” “non–real estate debts”).

Quotation Marks

- Use double quotation marks around direct quotations.
- Periods and commas precede closing quotation marks; colons, semi-colons, question marks, and exclamation marks follow closing quotation marks (unless they are part of the quotation itself).

Hyphenation

In general, do not use a hyphen after a prefix (e.g., co-, non-, re-, sub-, etc.) unless doing so would cause confusion (e.g., “suboptimal,” “comovement,” “nonrestrictive,” but “re-establish”).

A compound term is a combination of two or more words that, through use together, have acquired a special meaning. Compound adjectives should generally use hyphens (e.g., “well-known problems,” “1-year-old cattle”). Use an en-dash in place of a hyphen in a compound adjective when one of its elements consists of an open compound or when both elements consist of hyphenated compounds (e.g., “pre–World War II,” “non–real estate debts”).

Never use a hyphen for a two-word modifier if the first word ends in “ly” or if the word is “very” (e.g., “freshly harvested tomatoes” and “very high frequency”).

Hyphenate compound adjectives before the word they modify but not after the word (e.g., “variable-rate interest,” but “interest with a variable rate.” A compound modifier containing a numeral or spelled out number usually is hyphenated (e.g., “two-thirds majority,” “30-year-old farmer.”) Hyphenate written-out fractions (e.g., “one-half of respondents”).

Abbreviations

Write all abbreviations in full on their first use followed by their abbreviation (e.g., “ordinary least squares (OLS)”). The exceptions are USDA, UK, US, and EU, which do not need to be spelled out in full on their first use in the text.

Abbreviate UK and US when used as adjectives; spell out when used as nouns. Spell out the names of countries, states (in the United States), or provinces (in Canada) when they stand alone (e.g., no city is cited). Use US post office abbreviations for states and provinces when they are given with the city or county. US post office abbreviations are also acceptable as abbreviations in tables and figures.

Italics

Italicize scientific genus and species names, titles of published works, and foreign words that have not been naturalized into English. Additionally, italicize *a priori*, *ceteris paribus*, *ex ante*, *ex post*, *i.i.d.*, and *sui generis*. Do not use italics to indicate emphasis, quotations, or definitions.

Usage

<i>a priori</i>	“Knowledge or justification independent of experience.” Italicize.
affect	To cause a change or to have an effect. Rarely used (in economics) as a noun. Compare “effect.”
agri-environmental	Hyphenated compound adjective.
agroecological	Closed compound adjective.
among	Preposition used in relating three or more things. Compare to “between.”
and/or	Avoid.
between	A preposition used in relating two things. Compare “among.”
by-product	Hyphenated compound noun.
<i>ceteris paribus</i>	“Other things equal.” Italicize.
comprise	To include or contain (e.g., “the series comprises six bimonthly issues” but six issues do not “comprise” the volume). Avoid “comprised of.”
continual	Repeated, but with breaks in between; chronic. Compare “continuous.”
continuous	Going on in time or space without interruption. Compare “continual.”
cost-effective	Hyphenated compound adjective.
cross section	Open compound noun. Hyphenate only as a compound adjective (i.e., “cross-sectional data”).
data	When used in a collective sense, “data” takes a plural verb (e.g., “the data are presented in table 1”).

JARE Style Guide

database, dataset	Closed compound nouns.
decision maker, decision making	Two words. Not hyphenated (unless used as a modifier).
different	Avoid as an adjective. In the phrase “the procedure was used in three different models,” the word “different” adds nothing.
different from	Preferred to “different than.”
discrete	Distinct, separate, unrelated. (Note spelling; “discreet” means prudent or reserved.)
dummy variable	Vague. Use “categorical variable” or “binary variable” where appropriate.
e.g.	“For example.” Only use parenthetically. Should always be followed by a comma (e.g.,). Compare “i.e.”
effect	As a verb, to bring about or to cause to come into being (e.g., “effect change”). As a noun, the result of an action. Compare “affect.”
end result	Use “result.”
endo- exogenous	Note the spelling (not -geneous).
endpoint	One word.
ensure	To make certain or guarantee. Compare “insure.”
<i>ex ante</i>	“Based on forecasts.” Not hyphenated. Italicize.
<i>ex post</i>	“Based on actual results.” Not hyphenated. Italicize.
<i>F</i> -test, -ratio	Capital and italic <i>F</i> . Hyphenated.
fairly	Avoid (as an empty modifier: “fairly equal,” “fairly reasonable.” Acceptable as an indication that something was done with fairness.)
farmers’ market	Following <i>Chicago</i> , use apostrophe.
federal	Not capitalized, unless part of an official name, such as “Federal Reserve Bank.”
firsthand	Closed compound adjective.
farther	Indicates physical distance. Compare “further.”
further	Indicates metaphorical distance. Compare “farther.”
hetero-, homogeneous	Note the spelling (not –genous).
i.e.	“That is.” Only use parenthetically. Should always be followed by a comma (i.e.,). Compare “e.g.”
<i>i.i.d.</i>	“Independent and identically distributed.” Italicize.
if	Only use conditionally (e.g., “Farms struggle if their debt-to-income ratio becomes too high”). Compare “whether.”

imply	To suggest or indicate by inference, association, or necessary consequence rather than by direct statement. Compare “infer.”
indices	Plural of “index” (for measurable quantities).
infer	To derive by reasoning as a conclusion from facts or premises. Compare “imply.”
insure	To assure against loss; to take out insurance. Compare “ensure.”
Internet	Capitalize.
linkage	Refers specifically to “the act of linking” or “a system of links.” All other meanings, use “link.”
lead-up	Hyphenated compound noun.
lefthand	Closed compound adjective.
meta-analysis, meta-analytical	Hyphenate to reduce confusion.
multifaceted	Closed compound adjective.
needless to say	Leave out and consider leaving out whatever follows it.
note that	Avoid. Usually unnecessary. Similar constructions (e.g., “It should be noted that...,” “recall that”) should also be avoided.
<i>p</i> -value	Lowercase and italicized <i>p</i> . Hyphenated.
per capita	Not hyphenated, even when used as a modifier (e.g., “per capita savings”). Do not italicize.
percent	Use symbol (%) and not the term with numerals.
probit	Lowercase.
policy makers, policy making	Two words. Not hyphenated (unless used as a modifier).
premiums	Plural of premium.
re-estimate	Hyphenate to avoid confusion.
relatively	The term implies comparison and should accompany a basis for comparison: “relative” to what?
respectively	“In the order given.” Only necessary when it adds clarity.
righthand	Closed compound adjective.
separate	Avoid this term as an adjective. In the phrase “the procedure was used in 12 separate trials,” the word “separate” adds nothing.
significant	Confine use of the term to statistical judgment. Not used loosely to indicate “important,” “noteworthy,” “distinctive,” or “major.”
<i>sui generis</i>	“Of its own kind/genus” and hence “unique in its characteristics.” Italicize.

<i>t</i> -statistic	Lowercase and italicized <i>t</i> . Hyphenated.
<i>t</i> -test	
that	A relative pronoun introducing a restrictive (defining, limiting) clause. For example, in the sentence—“The new production practice that farmers use extensively degrades stream quality.”—the defining clause (“that farmers use extensively”) is needed to identify the practice being discussed. Compare “which.”
this	Avoid using as a standalone noun. After explaining a certain result, a sentence such as the following might appear: “This indicates an interaction between A and B.” Determining what “this” means can be difficult. Use specific nouns (e.g., “This increase indicates...”).
time period	Frequently redundant. Prefer either “time” or “period.”
time series	Not hyphenated (except when used as a modifier).
Tobit	Uppercase.
UK, US	Abbreviate as an adjective (e.g., “US business practices”), spell out when a noun (e.g., “business practices in the United States).
utilize	To use something in a way that is not its original intended purpose. In most cases, “use” is more correct.
vs.	Abbreviation of “versus.” Acceptable parenthetically and in table/figure titles.
very	Avoid.
website	One word. Do not capitalize.
whether	Indicates that two alternatives are possible (e.g., “We determine whether individuals prefer choice A or choice B”). Compare “if.”
whether or not	Use “whether.”
where	Relative pronoun referring to physical location (also acceptable as “[equation], where a is a variable describing...”). Compare “which.”
which	(i) A relative pronoun introducing a nonrestrictive (nondefining, descriptive) clause. For example, in the sentence—“The new production practice, which farmers use extensively, degrades stream quality.”—the nondefining clause (“which farmers use extensively”) merely gives additional information about its subject, which has already been identified by the adjective “new.” Compare “that.” (ii) Relative pronoun referring to situations (e.g., “A case in which this theorem does not hold”). Compare “where.”
willingness-to-pay	Hyphenated compound adjective. Not hyphenated when used as a noun. (May also be abbreviated as WTP.)
worldwide	Closed compound adjective.