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Stylebook:
Tips on Organization, Writing, and Formatting

by

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Abstract
Fifteen years of copy-editing experience – with theses (both in economics and in several medical fields), journal articles, book chapters and books, conference presentations, government reports, etc. – are distilled here. Papers are often sent to me for “language correction”, but what I usually find is that, far more than that, what they most need is major work on organization, writing, and formatting (including presentation of tables and figures). Even good writers can improve their writing by paying attention to the points herein, I believe. Of course digging deeply into issues of organization, writing, and even formatting improves readability (and thus the probability of being published, read, and cited), but it can also help to improve the quality of the thinking, i.e., the content of the paper. I first review the standard organization of most empirical papers in economics, with suggestions for improvement (including a brief discussion of some issues in reporting of statistical and econometric results). Then I discuss many points of good (and bad) writing (including sections on The Language of Economists and on Overused/Misused Words) as well as points of formatting (including many choices, where – even more than in writing – consistency is the most important rule). Throughout, some differences between Swedish and English practice are discussed, as well as some between American and British practice.

Keywords: Organization, writing, formatting, tables, figures, sections, headings, English, Swedish, British.

JEL: A1, A2, A33, C1, Y1, Y2.

Stylebook:

Tips on Organization, Writing, and Formatting

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A draft in progress:[2]
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[1] I thank Deirdre McCloskey for suggestions throughout, Lennart Flood for suggestions in particular in the section on Regressions and Results, Conny Wolbrant and Johan Lönnroth for suggestions on writing method and style, and Minh Ha Duong for suggestions re formatting and word-processing. Naturally I remain completely responsible for the results. Any suggestions for improvement will be greatly appreciated.

[2] Every time I read this I make changes, so at some point I have to stop. Last time when I released a version, after making changes, I had inadvertently combined two sentences in such a way that they seemed to grossly contradict what I meant to say. If you find problems like that, please let me know! If you see small dots (“periods”) before, and sometimes after, footnote-markers in the text, they are an artifact of .pdf, not in the original. I’ve gotten rid of lots of them – which before were also on all the headings – but I haven’t figured out yet how to get rid of these. Suggestions welcome!

Table of Contents

Attention to All the Details:
Organization, Writing, and Formatting

I have copy-edited hundreds of theses, conference presentations, journal articles, book chapters, World Bank and SIDA reports, etc., both in economics and in various fields of medical research. The main thing needed in these papers has not been "language correction", but rather better organization, writing, and formatting. It may not be sufficient for the paper to contain valid theory and accurate facts, as well as competent analysis and plausible conclusions. If a paper isn't well-organized, well-written, and well-formatted, it risks being unread.

If you want to be read, you must be considerate of the reader. An important further variable is whether those who read your paper then choose to cite it in their own work. Most papers are never cited, not even once – so being cited is a quality-mark to strive for. And readers are more likley to read – and cite – a paper that's well written.

Thus – beyond correct English – organization, writing, and formatting matter. These categories are somewhat similar to the divisions in classical rhetoric (McCloskey, 1983, 1985a, and 1987:11), which distinguished "invention" (content, the problem you're addressing); "arrangement" (organization); and "style" (writing and formatting). I obviously can't comment here on the particular problem you're addressing in any given paper.[3] Here I will focus on arrangement and style – organization, and writing and formatting. If the stylized guidelines presented here don't suit your particular situation, feel free to adapt them, of course.

The goal is to make your paper as simple and clear, as immediately intelligible to the reader as possible. This doesn't mean that you should ignore subtle and sophisticated complexities in your theory – but the challenge is to state those complexities simply and clearly. Avoid making your subject seem more complex than necessary (for example, if something "creates habits", it's probably neither necessary nor helpful to say that it "exhibits a habit-formation process"). Becker (1986:ch.2) discusses this as an issue of *persona* and how we attempt to create an aura of

[3] But – because I'm reading carefully – I almost always have many questions and comments on content when copy-editing. I copy-edit on paper, or in the file itself, as requested. My rates, as well as my CV and a memo describing how I work, are available upon request. The GU Economics Dept. is often willing to pay for copy-editing of students' and researchers' papers.

authority. Such jargon may impress fools, but it distracts from real science. Better to just say what you mean, in normal everyday language wherever possible. (There may of course be exceptions; more on those later.)

You want to keep the reader focused on the problem you're addressing (content). And in that regard, of course, creativity is important; but then it takes discipline to keep the reader focused on the problem. Avoid varying your terminology in the belief that it's more interesting that way; it isn't. At least in technical work, **consistency is the single most important rule of organization, writing, and formatting!** (Please keep that in mind whenever I mention *choices* below.)

There are many ways in which you can be consistent. I will present some of my preferences below, so that once you have considered the options you can make an informed choice – in the absence of which it's difficult to be consistent. (Ross-Larson 1982:ch.10 also addresses this issue in detail.)

Besides consistency in organization and writing, I will also emphasize consistency in formatting, including artful presentation of tables and figures. Even if a particular referee or editor has some other preference regarding some particular aspect of formatting that I advocate here, it's unlikely to negatively affect the chances of getting your paper accepted for publication. But, on the other hand, careful and consistent formatting will make your paper look much more professional, and even force you to think through your organization and writing more carefully – including your conception of the problem you're addressing! – and thus increase your chances of the paper's being published, read, and cited.

In the next sections I address the basic formatting and organization you need to get started. After that I will address organization in more depth, and of course writing – with further formatting tips scattered throughout.

Basic Formatting

Set paper-size to A4 – European paper, if that's what you're using – with margins about 2.5 cm all the way around for your entire paper, including tables and figures. (If your computer is inadvertently set by default to American letter-size – 8½ x 11 inches – you'll end up with too-wide bottom margins and too-narrow right margins.)

Insert page numbers, but don't show the page-number on the title page (which, if you wish, can be considered page 0) – perhaps don't show it on the first actual text-page either (which would then be page 1, but it's obvious and doesn't need to be shown).

In MSWord, use *Format/Style/Normal/Modify/Format/Font* to set the font-size (use 12-point) and the font-type of your basic text (here I'm using Arial). (If you're not using MSWord, please overlook the specific instructions appropriate only there, and pick out what's useful to you. Open Office appears to be an excellent free alternative to MSWord yet quite similar too and compatible with it.)

Use *Format/Style/Normal/Modify/Format/Paragraph* to set *alignment* left as well as *widow/orphan control* (under Line and Page Breaks), which keeps at least two lines together at the bottom and top of pages, so you're not left with single words or phrases – widows or orphans – which are considered unaesthetic.

Use *Format/Style/Normal/Modify/Format/Language* to set the language you want, e.g., *British* or *American* English. (Hargevik and Hargevik, 1998, discuss – in Swedish – many of the differences between British and American vocabulary, usage, etc.)

Use *Body text* as the style for all your text; it will pick up whatever you set for *Normal.* Then use *Format/Style/Body text/Modify/Format/Paragraph* to set line-spacing (usually 1½ or double), indents, and other general features. (Later I'll discuss using *Format/Style* for section headings as well as for table and figure titles.)

If you have several papers in a thesis – or chapters in a book, of course – standardize the format (and notation) of all kinds, across all of them.

If you're using a word-processing program that doesn't offer these features – and isn't easy to edit in – change to a different program. (If you're using the Swedish version of Word, you can ask me if you need help in finding the commands I mention here.)

Section Headings

Papers need clear sections with identifiable subjects. Section headings can be flexible (you may be able to think of something more interesting and informative than "Introduction", for example). McCloskey (1987:11-12) advocates creative headings for sections which are themselves creatively designed to best present the problem

you're addressing. But here I'll follow the pattern that most people actually use, at least for empirical papers: Introduction; Background/Literature Review; Methods; Data; Results; Discussion/Conclusions. If the problem you're addressing can be better addressed in some other way, go for it. (Thompson, 2001, offers some tips focused more on theoretical papers, as well as on oral presentations.)

It's not necessary to repeat the title of the paper on the first page of the actual text, since it's on the title page. It can look nice to put a short version in the "header" at the top, however – perhaps on every other page after the first, with your last name as well, if you wish (or as above).

Chapter and section headings are usually placed at the left, with no period at the end.

Chapter or section numbers are not always necessary but, if you have them, they should be followed by a period and a single space (e.g., **1. Introduction**). If you have *sub*sections, or *sub*-subsections, set off by periods – such as 1.1 or 1.1.1 – there is usually no period at the end.

Even if you have section numbers, References usually don't have a number – they're something additional, one-of-a-kind, at the end – and similarly with an Appendix. Of course if you have several appendices, you'll need to differentiate them: Appendix A and Appendix B, for example.

If, within a section, you create a subsection, then you've actually created *two* subsections – the first part, and then the subsection you created. Both should have subsection numbers (if you're using them) and titles. In rare cases, the first part may seem so general as not to need a subsection title, whereas the next part is so specific that it demands one. At least to me, thus having only one *titled* subsection looks better when using *only* titles; i.e., without subsection numbers (so that those who remember seeing subsection 1.1 won't go looking for subsection 1.2, if it doesn't exist).

For the headings of each section-level – section, subsection, etc. – decide what capitalization-pattern you want. It is not necessary to capitalize more than the first word of headings, although – for higher-level sections – you may wish to capitalize more: probably not *all* words, but perhaps all *important* words (or, as I've done in this paper, just the *most* important words).

The presumption is generally against ALL CAPS (capitalizing every letter), because it's harder to read. The only exceptions – if you insist – should thus be short: ABSTRACT; REFERENCES; APPENDIX; and perhaps the main title of the paper (if it's short). Occasionally there may also be something on a table or figure which can usefully be in all caps – but keep it to a minimum.

The combination of features – capitalization plus font-size, bolding (or not), and italics (or not) – should set off headings from normal text, and indicate the section-level; chapter headings should be flashier than section headings, which should be flashier than subsection headings, etc.

In contrast to capitalization, font-size, bolding, and italics can all be controlled automatically and consistently (in MSWord) with the *Format/Style/Heading* function – as well as space-before and space-after (and even page-break before). Give chapter-, section-, and subsection-headings a "style" indicating what they are and their level relative to each other (for example, "Heading 2", "Heading 3", etc.). If you then want to change the font-size, bolding, italics, spacing before or after, etc., for all headings of any particular section-level, you can easily do so, automatically and consistently. You can also then easily and accurately pick up all headings for a working table of contents (more on this below).

Section headings – as well as titles of tables and figures – should not get separated from what they're titling. You can avoid this by using *Format/Style/Heading#/Modify/Format/Paragraph/Keep with next*. (Similarly you can keep Sources and Notes with the tables they relate to.)

Except perhaps in a very long or very formal work, it's not necessary to start each new section – after the first section – on a new page. Simply leave adequate space to make it clear that a change is happening – perhaps more space at the end of a section than at the end of a subsection. Again, this can be handled automatically and consistently using *Format/Style/Heading#/Modify/Paragraph/Space before*.

A working Table of Contents

Articles for journals don't normally have a table of contents, but I find it very useful to have one when writing. If it looks pretentious to leave it in, you can always delete it before submitting for publication.

Once you've designated section-levels for headings in *Format/Style*, you can create a table of contents automatically – which will thus be consistent with your actual headings – using *Insert/Index-and-Tables/Table of Contents*. The table of contents can thus collect all your headings – including References, Appendices, etc. – exactly as written in the paper, although it need not have the same formatting as the actual headings: You can use different formatting here – e.g., bold, italics, even a different font.

Reviewing your table of contents can help you improve organization by allowing you to see the structure of the paper schematically. For example, if you have subsections under Methods, and corresponding subsections under Results, they should appear in the same order and be expressed in the same terms in both sections. If you've ordered – or worded – the corresponding sections differently in Methods and Results, thinking about why you've done so, and which way you want to standardize them, can even help improve your understanding of the problem you're addressing (content).

Reviewing your table of contents can also help you detect and fix inconsistencies in formatting. For example, as noted, the capitalization-pattern you choose for section-headings at each level is not something that you can accomplish or change automatically; but you can easily check it with your table of contents.

Chapter and section numbers – if used – will show up in a column to the left on the table of contents, which will allow you to check for inconsistencies there too.

If any of your headings are longer than one line, a "hanging indent" – both on the original section title, and in the table of contents – can make them look nicer (while leaving undisturbed the column of numbers, if there is one); for an example, see Keywords in the sample Title Page (next).

Organization

Title Page

On your title page you should have

- the title *centered* towards the top – artfully broken, if more than one line; with a colon before any subtitle; and including study-period dates, if any;
- the name(s) of the author(s) and institution(s) centered in the middle, including the address and email address (perhaps underlined);
- then the date (at least month and year) centered lower down; and
- any other appropriate information, such as the name, location, and dates of the conference for which the paper is being prepared.

Space it all vertically so it looks nice:

Title of Paper:
Plus any subtitle[4]

Name(s) of author(s)[5]
Department of Economics,[6] Handelshögskolan[7]
Box 640, Göteborgs Universitet[8]
SE-40530[9] Göteborg,[10] Sverige (Sweden)[11]

Email address

11 June 2008

Then (aligned left) it's standard to have:

ABSTRACT written in all caps (or not) and bold,
using *Body text* and normal margins for the actual text (see next page); followed by:

JEL codes: from http://www.aeaweb.org/journal/jel_class_system.html.

Keywords: probably alphabetized; separated by semi-colons instead of commas if it helps to distinguish complex phrases; with hanging indent (as here) if more than one line.
(hanging indent) →

Lists of *JEL codes* and *Keywords* end with a period.

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[4] Note my recommended capitalization-pattern here (i.e., only first word of subtitle capitalized, but all important words of main title).

[5] An alternative, especially with multiple authors at several institutions, is to put a footnote on each author with their institution, indicating also whom to contact (the "corresponding author") and their address info.

[6] One could equally well write Economics Department or even Economics Dept. (abbreviated).

[7] I include "Handelshögskolan" in the address to honor our Rector's efforts to develop our school identity, but I leave it in Swedish because "School of Business, Economics and Law" seems cumbersome (given our specialty in *commercial* law, the literal translation "School of Commerce" might be equally descriptive but less cumbersome).

[8] Since the official name in English has now been changed back to the *University of Gothenburg*, I have reverted to the Swedish form – which must be understandable, even to English-speakers.

[9] Although traditional Swedish practice has a space after the first three numbers of the postal code (SE-405 30), I leave out the space, as I expect will become standard in this era of computer forms.

[10] This is the official name of the city *in English*. If foreigners write it "Goteborg" – without the umlaut (tecken för omljud) over the first "o" – the meaning will still be clear. English-speakers can even learn fairly easily to approximate the pronunciation of Göteborg: Yer´-te-bor´-y (the first "r" is an English "r", not a rolling Swedish "r"). If they say Got´-e-borg (with hard "g's"), we'll still understand them.

[11] I've started writing "Sverige (Sweden)", since English-speakers have been known to insist that "Sweden" is the *real* name!

Abstract

Many people will only read the title and the abstract – if they read anything at all. Making the abstract vague won't make them more likely to read more of the paper: Be as specific as you can about what you did and why, what the primary comparisons are – either within the paper, or to previous work (or both) – and what your results are.

You should write (or review) the Abstract last, to make sure it matches the organization and wording of your final draft, including the wording of your title and section headings.

Purpose and General Method: Some Introduction to what follows

Introductions are the hardest section to write, and – like the abstract – should probably be written (or certainly rewritten) after you've completed the rest of the paper.

The first paragraph of the introduction must hook the reader, so that they decide to continue reading the paper. You can't assume that they'll read through three pages – or even three paragraphs – of dry background before you tell them what you've done and make it clear why they should be interested in it. Do it up front!

Then give a quick but deeper sketch of the problem you're addressing, the concepts and types of models involved – whatever overview you think will help the reader initially – while leaving most technical details for later, for those who read further. Readers should be able to read just the introduction and the conclusion – and perhaps scan some tables or figures – to get a reasonable understanding of the paper.

Often even writers of empirical papers get focused over-much on the theory. Be sure to address the facts on the ground – not just their relevance to theory, but their relevance to the sector, or country, or whatever is involved.

Often the Introduction ends with a "table-of-contents" paragraph saying: "The rest of the paper is organized as follows. Section 2…" But this approach is obvious and boring. Even worse, these paragraphs are usually unintelligible, until after one has read the paper. Usually one can see that it's the end of the first section – and that another section is beginning – so try leaving out the first sentence and saying simply:

"The next section…, while Section 3…, etc." Use the same structure in describing each section (e.g., don't switch between active and passive constructions, which is just distracting). Make it as interesting and informative, even dynamic, as you can. When you're done with the paper, review it's structure – via your table of contents, if you've created one – and rewrite this paragraph to make sure it really reflects the paper as written, including the precise words you use in your section and subsection headings. (Of course you can always choose to change the words in your section and subsection headings to match what you've got here, if that seems more appropriate; that's part of the point.)

Literature Review: Theoretical Background in more depth

You may next need a section which reviews the literature somewhat generally, before developing the specific procedures you used. But tell a coherent story. This isn't the time to tell everything you know that's remotely related to the subject. Rather it's the time to make clear how some previous studies relate to your own, and probably how they relate to each other in the process. For example (schematically): "Jones (1987) thought this and found that, but Smith (1993) argues that, for a particular reason, one should instead do something else, and that is what was done here."

Here I referred to Jones in the past tense because that approach seems to have been superceded, whereas I referred to Smith in the present tense because that approach still seems current. Nevertheless I expressed "what was done here" in the past tense, assuming that it's an empirical paper and that the full process cannot be reproduced in the paper (more on this later).

For a journal paper you may want to reduce this section severely and merge it into the Introduction.

Text Citations

When you discuss a previous study (as in the literature review), or when you use a previous study as evidence for an assertion you make (perhaps in your introduction, or development of methods used), you *cite* the previous study briefly, in such a way that the reader can easily find the full reference information in your list of *references* at the end of your paper. Thus citations and references should match (more on references later). Make sure that every citation in the text can be found in your list of references, and vice versa – and check that the spellings and dates in both places match (and are correct). Whatever style you adopt in the text should be consistent

with whatever style you adopt in your list of references – e.g., whether or not you use an abbreviation there for pages, or simply show the page-numbers (more on this below).

The usual standard for citations in economics is to write “author (date)” when discussing a work, or “(author, date)” when citing the work as evidence for an assertion. In the latter case, some also leave out the comma between author and date.

If you cite several references, you can just use commas between the citations, as in (Smith 1776, Ricardo 1817, Mill 1848, Marshall 1890) – or you can use commas to separate the *dates*, and semi-colons to separate the *citations*, as in (Smith, 1776; Ricardo, 1817; Mill, 1848; Marshall, 1890). In either case, the style you choose should be consistent with how you cite all your other references.

Chronological order seems appropriate for most times when you have multiple references, though if one is clearly most important, you might want to say “(Smith, 1776; see also…)” and then, perhaps, have the rest in chronological order. Alphabetical order would of course facilitate the reader’s looking them up in your References, but I wouldn’t put much weight on that. Sometimes some other order might be appropriate. Random order is not.

If you cite Smith published in 2001 but want to acknowledge the original publication date, you can write (Smith 1776/2001), or (Smith 2001 [1776]) – using brackets to designate the original publication date.

If you cite Marshall and want to acknowledge that the work had many editions over many years (and yet was republished much later) you can write (Marshall 1890-1920/2002) or (Marshall 2002 [1890-1920]).

It can be tempting to show that you know that there are many other references, by saying “for example” or “among others”. But the reader usually understands that there are other references, so these are empty words. It may be appropriate to say something concrete about the references you choose to list (perhaps in a footnote), such as: “Smith (1776) is by far the best reference on this topic, although regarding some particular part of it, Jones (1982) is also good.”

At least the first time you refer in the text to a work with multiple authors, it might be courteous to show all their names; but later you might prefer to use “first author *et al.*” (= *et alii,* “and others” in Latin).

Some also consider it courteous – and I agree – to refer to *the authors* (rather than *the paper*) as the subject of discussion: for example, “Smith and Jones (2001) show…” (plural verb, indicating the authors); rather than “Smith and Jones (2001) shows…” (singular verb, indicating the paper).

When appropriate, it is courteous to the reader to also indicate the page(s) or chapter(s) cited, which can be done, for example (with *commas* and *page- or chapter-abbreviations*) as:
(Smith, 1776, p. 234); or (Smith, 1776, pp. 234-7); or (Smith, 1776, ch. 3);
or (with *colons*) as:
(Smith 1776:234); or (Smith 1776:234-7); or (Smith 1776: ch. 3).
Of course, when discussing a work in the text – where the author is not included in the parentheses – you have the same choices regarding abbreviations and colons. (Remember, choice implies the necessity of consistency.)

When you use a previous study as evidence for an assertion that you make, the citation should either be placed where you mention the point it supports (e.g., *here*), or at the end of the sentence (*here*, before the period). (but not *here*, after the period)

If you’re introducing a quote, it usually seems less intrusive to include the author-date-page citation in the sentence introducing the quote, rather than afterwards – or perhaps just the new information (the page number), if you’ve already given the author-date citation.

Text is not mathematics, and there’s nothing magical about having parentheses around dates, so avoid using double parentheses, as in (Smith (1776)), which just looks cluttered.

You also don’t normally need to say “(*see* Smith, 1776)” because that’s the purpose of the citation; it’s understood that you’re suggesting to the reader the possibility of looking at the reference. (Avoid attempting to establish your authority with “see this” and “note that”. Do it instead by arguing your case well.)

If you have a paragraph discussing Smith (1776), you don't need to repeat the date (1776) every time you say Smith – as long as it's obvious that you're still referring to the same work.

Development of Specific Methods Used

Rather than alternating, it's usually better to discuss *all* your methods before reporting results – and to report *all* your results before discussing what they might mean. If you're tempted to have a section with one method and its results, followed by another section with another method and its results, it might be better to split the paper.

Your development of specific methods should be clearly and obviously based on the more general theoretical background just developed, but it should now lead clearly and obviously to an exact description (for example) of the regression-equations you actually estimated. Again, this shouldn't be a general lecture on the topic. It isn't intended to demonstrate your knowledge of everything remotely related, but rather your ability to explain thoroughly yet concisely the exact procedures you followed.

Of course you may have done several procedures that you wish to report together in one paper. Make it clear then what the relation between those procedures is. For example, after having explained exactly how you came up with the first regression equation, and making it clear that its results will be reported later, explain why you chose to also do another regression, and how it's similar to – yet different from – the first one (i.e., how it expands upon it, or tests it, or whatever).

Incidentally, explaining the development of the specific methods you used is *not* methodology, which is the comparative study of methods (Streeten 2004:4). You don't "have" a methodology, or "use" a methodology; but you can *do* methodology if you wish (and more power to you if you do).

It is possible to write so as to attempt to establish your authority by fiat, but it's also possible to be more reader-friendly. For example, although you can say "Assume this" and "assume that", you can also say "If we assume…" or "Consider a situation where…" or "Let's take F as the set of all firms and…".

Can you “deal with a problem” by “making an assumption”? (I would like to live in such a world!) Is the assumption valid? How can you test it? Or are you just trying to eliminate problems by word-magic, with some mumbo-jumbo about assumptions?

Description of Data and Variables

British usage may more often refer to *data* as plural, but American usage is usually singular, as referring to a data-*set*: thus “the data is”, not “the data are”.)

The data of course can’t be reproduced in its entirety, but its summary statistics should be provided, at least in an appendix, so that the reader can judge what your results are based on, and whether they seem reasonable. Summary statistics usually include minimum, maximum, mean, and standard deviation.

Describe your data-sources and the exact procedures you used to come up with your final sample(s). If appropriate, make it clear how many observations were in the initial database, how many were eliminated for what reasons, and how many remained and were used. These numbers should add up. In fact, simple accounting is a useful trick: Verify that every sequence of numbers you use – anywhere in the paper – adds up to what it *should* add up to (and *show* the totals on tables).

Should you delete “outliers”? Not if they’re generated in a complex *scale-free* process (Bak 1997). Assuming that they are outliers that can be eliminated as irrelevant implies (but obscures – unless explicitly discussed) a fundamental assumption about the nature of the process that generated them. (If you have to adapt to common practice in your field, at least be aware of the possibility that there might be ways to improve it.)

All variables used should be described thoroughly in one place, so that little bits of description don’t pop up here and there throughout the results – or worse, that some variables go completely unexplained. Explain your variables briefly but thoroughly (e.g., if “head of household = male if present”, explain why).

The order chosen for the description of variables should make sense in some logical way, and should then be used throughout – on tables and, unless there’s a good reason to change it, in discussions of results as well.

Regressions (or other empirical procedures) and Results

I suggest thinking about empirical papers the way you thought about chemistry, physics, or biology experiments that you may have done in high school – and now you're writing up the results. Report what you did (your procedures) and what you found (your results) before discussing what you think they mean and drawing conclusions.

Writing in the present tense as though you are actually doing the regressions or other empirical procedures in the paper (which McCloskey 1990:61 refers to as the "gnomic present") – when you are clearly *not* doing them in the paper – seems an unfair attempt to gain authority over the reader, who is in no position to judge your procedures, the details of which will mostly have been omitted. (As noted, Becker 1986:ch.2 discusses the issue of *persona* and *authority* more generally).

Similarly, writing as though your results are general – when they're obviously based on particular data from a particular time and place, analyzed with particular techniques – seems an unfair attempt to reach conclusions which you should properly have to argue for, if in fact you believe them and want others to do so. That's what empirical science is about.

Physiology experimenters, for example, are careful to specify the precise source and type of all their subject animals and equipment – because they might affect the results, which can't be taken as *general* until "proven" to be so by repeated experiments with a variety of subjects and types of equipment. But economics is even less likely to have general results. Thus Robert Solow (1997:56,53) points out a "serious pitfall":

> the temptation to believe that the laws of economics are like the laws of physics: exactly the same everywhere… and at every moment… The part of economics that is independent of history and social context is not only small but dull. …A good model embodies *accurately* a representation of the institutions, norms, and attitudes that govern economic behavior in a particular time and place. There is no reason to presuppose that a successful model… will apply unchanged when institutions, norms, and attitudes [are] different.

Results are difficult to write: I often suggest rewriting them completely, paying careful attention to both style and content. If you have run several regressions using equations you developed earlier, first make it clear to which equation each set of

results relates. Then treat each set of results symmetrically, reporting them thoroughly, in the same order.

Be very systematic, going through *all* the results, not just cherry-picking a few that fit your pre-conceived notions. Readers can (presumably) see the particular results on a table, so you don't need to repeat them in great detail in the text. But call the reader's attention to the patterns that you see: *These* are generally higher than *those* (give *one* example to make sure we see what you're referring to), which was confirmed (or reversed) in the other model, etc. If comparing results for two groups, discuss both similarities and differences.

Readers don't need much discussion of what the results might mean at this point – rather give a sense of the results themselves. Things that don't fit pre-conceived notions are all the more interesting for that reason, so look for and report failures of expected patterns (and other incongruities), as well as confirmations of them.

Sign, Significance, and Magnitude

You can test a hypothesis, but the test *itself* won't be significant (or non-significant); the result applies to the variable, or more particularly to its effect.

Can you prove that the effect of some variable is statistically significant? The estimated coefficient of the variable may meet some conventional level of significance, but it could still be a fluke – with an admittedly low probability – so you haven't "proved" anything.

Similarly, if you find that the effect of some variable is not statistically significant at some conventional level, you haven't proved that it can be ignored.

On the other hand, if an effect doesn't meet some conventional significance level, does it make sense to note that it had the "right" sign, and to comment on its magnitude? It might – but what then do you take statistical significance to mean? McCloskey (1985b and 2002) and McCloskey and Ziliak (1996) discuss these points in detail.

Conventional levels of statistical significance are arbitrary. They were developed in agricultural economics where it may have been easier to control for disturbing factors; at any rate, the conditions, and the costs of error, were different. How will you determine what is the appropriate level of statistical significance for *your* work? How

will you balance the risk of wrongly *excluding* a variable (Type I error) against the risk of wrongly *including* one (Type II error)?

Many writers report standard errors on tables, along with asterisks indicating conventional significance levels (* = 10%; ** = 5%; *** = 1%) or confidence levels (* = 90%; ** = 95%; *** = 99%). Others instead report t-values (or z-values), which may be more courteous to the reader, reducing the amount of in-the-head mathematical calculation required to interpret them, to verify the significance levels you report. But since significance levels are arbitrary, and their meaning ambiguous, prob-values – the probability of getting a coefficient as large as you got with repeated trials if the true coefficient were (usually) zero – are probably best. They're the most easily and directly interpretable by the reader, making both asterisks and reader-calculations unnecessary. They also provide potentially useful information about all the variables, not just those statistically significant at conventional levels.

Does it make sense to exclude a variable as having a non-significant effect because its prob-value is, say, 6% (or even 11%)? What is the potential cost of erroneously omitting that variable from consideration? That's a judgment that only you – not any automatic test-procedure – can make. Tests don't accept or reject hypotheses – *you* do!

Even if the effect of a variable seems highly (statistically) significant, and even if the sign on its coefficient is "correct", its actual magnitude may be so small as to be meaningless for policy purposes (or whatever your purposes may be). Thus *statistical* significance is not the same as *economic* significance. Using the expression "statistically *discernible*" (at some *error*-level or confidence-level, or prob-value) is less conducive of this kind of mistake, while eliminating the incongruity of a higher "significance level" being *worse*, and a lower one *better* (Wonnacott & Wonnacott 1990: 288-92).

On the other hand, if the effect of a variable has a prob-value exceeding 6% (or 11%), it may yet be the case that the true coefficient-value is not zero (though variance is large); and that coefficient may be large enough that ignoring the variable would be a big mistake. So sign and significance-level (or prob-value) are not sufficient. You must consider magnitudes.

You can report magnitudes in terms of marginal effects, or perhaps in terms of beta-values (the effect of a one-standard-deviation change in the variable). But get in the habit of reporting and considering them.

If your "sample" actually consists of all of an entire population (with some variance), then prob-values (significance tests) are irrelevant, because what they tell you – based on a sample of the population – is the probability of getting a *non*-zero value if the *true* value were zero and you were to take repeated samples. But you already have the true value! It is whatever it is; if it's not zero, so be it.[12]

On the other hand, comparing variance to the coefficient may tell you that you have a lot of variation. That doesn't necessarily mean that the effect of the variable is economically non-significant, but it *does* mean that you haven't yet "explained" the variation, and therefore that your specification could perhaps be more complete.

Reporting Results with Omitted Variables

If you leave out some variables (perhaps certain dummies) so that their values are picked up in the intercept, report in a Note at the bottom of the results-table which ones you left out. Would some other combination of omitted variables make a better base for the story you want to tell?

If you have several dummies in a set – say, city-of-residence – it may be that you arbitrarily choose one city as your standard (to omit) and report results for the rest. It may then happen that one dummy gets a coefficient which is not statistically discernible from zero (at whatever significance level you choose to use) *relative to the location you chose as your standard.* But the effect of that location may still be statistically discernible from other locations, and you may want to be careful not to lose (or misinterpret) that information.

An example: Suppose you have three locations, the capital city and two others, and you *arbitrarily* choose the capital as your standard. You might find that the effects of neither of the other cities have coefficients that are statistically discernible from the capital, *but that one effect is positive and the other negative.* You then report that there are no statistically discernible differences in location. But if you had chosen

[12] Hoover and Siegler (2008) dispute this point of view, and usefully challenge McCloskey and Ziliak on a number of other points (to which the latter respond in the same issue).

either of the other two cities as your standard, could you have gotten a discernible difference between those two other cities? It seems possible. If it would make a more interesting story – or just be more accurate – you might want to check it out.

It could also happen, in this example, that you found a statistically discernible difference between the effects of the capital and *one* city but not the *other* (and, again, that one was positive and the other negative, relative to the capital). If you then use the one with the discernible difference as your standard, you're more likely to find discernible results for both the capital *and* the other city, whereas if you use the one without a discernible difference from the capital as your standard, you'll find only one discernible difference.

Similarly, if you have more than three locations, it might be better to omit at one end or the other of the effects-spectrum. If you *also* choose to omit so that the gap to the next (positive or negative) value is the *larger* one, you probably maximize the number of discernible results. And all this makes it easier to report those results.

Of course, in the original example, if you're only interested in differences from the capital, then you can report whatever you found with the capital as your standard – but not that there are no discernible differences at all between cities.

To sum up, there are no magic bullets. Instead a lot more of your economist's judgment is required.

Discussion, Summary, and Conclusions

In their final section, writers often first summarize briefly – and quite appropriately – what they did in the study and have reported in the paper, before drawing conclusions. So an accurate title for the final section might be "Summary and Conclusions" – unless you come up with something more descriptive of your particular conclusions.

A widespread and perhaps old-fashioned alternative, "Concluding Remarks", means essentially "final words" – or perhaps "final thoughts" – but since *something* had to come last, that doesn't seem very informative. It sounds like a formal address, perhaps a political speech, a bit pompous.

If the discussion of your results is quite long and complicated, you might want to make "Discussion" a separate section – possibly with a more interesting and

informative title describing the subject of the discussion – followed by a briefer "Summary and Conclusions".

If your paper is theoretical but you want your conclusions to be taken as relevant to the real world, it would be good to argue why and to what extent they are relevant, i.e., to what extent the assumptions embodied in the theory are either valid, or neutral, in this particular case. Empirical papers also use theoretical models; make it clear how and to what extent you think your model does – and doesn't – correspond to reality.

It's quite standard, of course, to mention "opportunities for future research", though you might not want to leave the impression that you're *only* trying to set yourself up for future funding.

I also suggest modesty – in Introduction, Conclusion, and throughout – in claiming "contributions", "innovations", etc. Just tell readers what you've done, and your professional colleagues will decide what is valuable to them. Of course, if you've searched thoroughly and aren't aware that some approach, or data-set, or whatever, has been used before, you can mention that.

References

If you're submitting to a particular journal you *might* want to use their standard for references – but why worry about that until you know your paper has been accepted at that journal? Another journal might have a different standard. Here are some general guidelines.

References usually look nicer starting on a new page, unless perhaps there are only a few. I don't consider it necessary to double-space references – it's just a waste of space – even if the rest of the text is double-spaced (or 1½). A hanging indent – first line *out*, next lines *in* – makes it easier to find particular references, as does some space between references (6 points is sufficient).

If there are two or more authors or editors of a work, it's clearer and easier to read if you switch to normal usage – for Westerners, personal name before family name – after the first author, and use "and" before the last one. All authors should have a personal name or initial shown, even when there is more than one author. Initials should be followed by a period, followed by a space unless there's a comma (such as

after the first author). If you show first names for some authors (which is probably courteous), do so for all, unless they only use their initials. If an author uses two first initials, do you space between them, or not? It's your choice, but – different from Swedish – each initial gets a period, even if there's a hyphen between them. (As noted, Hargevik and Hargevik, 1998, discuss this and many other differences between Swedish and English usage.)

Just as in *citations* (discussed earlier), the usual standard in economics is to put the date (in parentheses) after the author name(s) – followed here by a comma and then the title of the reference.

There are a variety of acceptable styles for titles of

- books;
- book chapters;
- journal articles;
- "formal" working papers; and
- informal working papers (what used to be called *mimeo*, nowadays photocopied or downloaded from the author's own website); etc.

While authors and dates are generally reported the same across those categories, the use of quotation marks and italics on *titles* may be different, as well as how you capitalize them – every important word, or first-word only – including possible different capitalization, by category, of subtitles. Whatever you decide to do for the first in any given category, follow that rule consistently for that category throughout (or change the first one, of course!).

Subtitles – of books, journal articles, working papers, etc. – are usually separated from the main title by a colon (**:**), even if there is a dash in the original (or no punctuation at all, where the subtitle may have been set off by spacing, size, color, etc.).

For all categories, I suggest capitalizing all important words of titles. For books I also capitalize all important words of subtitles, but for non-book subtitles I capitalize only the first word. (You may prefer some other standards.)

Titles of journal articles are typically enclosed in quotation marks, followed by a comma. Some writers – especially American, I believe – put the closing quotation

marks outside the comma. But if the title ends in a question mark, it will look odd to follow it with a comma, so putting closing quotation marks inside the comma works better. There's more on the use of quotation marks below, under *Punctuation*.

Other titles should also have a comma separating them from what comes after.

Should you also use quotation marks on the titles of book chapters and working papers, etc.? Not on books – but otherwise, it's your choice.

Many writers italicize the names of journals, and some also italicize the name of the "main source" in other references, e.g., a book of which they cite a chapter. One can carry this rule further, to italicizing *something* in *every* reference; e.g., the book title even if there's no specific chapter cited, even a working-paper title, etc. It's your choice.

As a courtesy to the reader when referencing a title (or an institution) in a language other than English, I suggest putting a translation in parentheses.

There are several acceptable variations for reporting volume, issue, and page numbers. Do you want to use the abbreviations *Vol.* and *No.* (or *vol.* and *no.*; and *pp.* either way), or not? Do you want to show the month (or season) in addition to the volume number and issue number, or not? Thus, for example:
Journal Name, Vol. 24, No. 3 (March), pp. 627-629; or
Journal Name, vol. 24, no. 3 (March), pp. 627-629; or
Journal Name **24**:3(March):627-9; or
Journal Name **24**(3):627-9.
You could also choose to put some spaces in either of the last two variations.

If you show all the digits of the final page of a range, even when they repeat information (e.g., 627-629), then do so in all cases. Conversely, if you delete the repeated information (e.g., 627-9), then do so in all cases.

If you show issue-number (or month or season) on one reference, do it on all references for which that information is available. At the very least, if you show the month for an article from a particular journal, make sure that you do so for *all* articles from the same journal. Similarly, if you show page-numbers for some references, show them for all – or have a good reason for not doing so.

In this era when information is so easily findable on Internet, I see no reason to show the city-location of publishing houses, though with some other "publishers" you might choose some consistent standard for those you show the city for, and those you don't. For example, some sources – such as the World Bank, IMF, and some universities – may be so well-known as to make it unnecessary, even though you might want to show cities for other institutions or universities that are less known.

If you show publisher-locations, do you show *City: Publisher* or *Publisher: City*? It seems to be done in either order, so it's your choice.

Do you want to write out the full legal name of the publisher, or just enough to make it clearly identifiable? It's your choice.

When referencing a particular chapter in a book, in addition to the chapter title, show the pages (or the chapter-number), e.g.:
"chapter title", pp. 10-25 (or ch. 2) in "book-title", … (if the author is the same); or
in "editor-name (ed.)", "book-title", …. (if it's an edited volume); or
in "editor-name" (date). (if you also reference the entire work)
Put a period at the end of the reference.

Alphabetize you references, in date-order when there's more than one by the same author. Some writers follow an old practice of not repeating the name(s) when there's more than one work by the same author(s) – substituting a dash instead – but machine-alphabetization won't work that way, and it doesn't seem so reader-friendly to me anyway – nor is it searchable – so I discourage it.

Tables and Figures

Tufte (1983) is the ultimate resource on graphical excellence (ch. 1), on graphical integrity (ch. 2), and on the theory of data graphics (Part II). In fact, if you enjoy maps, charts, graphs, and tables, a few hours reading Tufte can be pure joy.

All *tables* should have a standard format – e.g., more border-lines or less, whatever looks good to you. Similarly all *figures* should look identical in their underlying format, so that attention is directed to the particular purpose of each.

Look at all your tables together, and all your figures together, and standardize every aspect you can. They should only be different where the differences serve a purpose.

Tables and figures should be aligned at the left margin and – unless it looks ridiculous because they're too small – they should also extend to (but not beyond) the right margin.

If you have only a few tables and/or figures, and they're not too large, you may want to include them directly in the text. Put the table or figure at the first paragraph break after your first mention of it, or as soon thereafter as you can, so that it will fit on a single page (if at all possible).

Some journals may want you to keep tables and figures separate, merely indicating in the text – usually centered, and again, usually at the end of a paragraph:

<Table 1 about here>

or

<Fig. 1 about here>

You may also have tables or figures you wouldn't want to include directly in the text, either because they're too long,or because they're less important to the main flow of the argument. They can go in an appendix – where, for example, *definitions* and *summary statistics* of variables are often found, as well as lengthy or less-important derivations. (Appendices are discussed more below.)

Tables and figures – whether in the text directly, or in an appendix – should appear and be numbered in the same order in which they are first mentioned in the text.

Unless you have very many tables or figures in each section, number them continuously throughout the paper, not according to the section they're in; that practice is for a textbook, not a journal article.

If a table is too large to fit on a single page, you may want to use a smaller font on the table. But don't make tables (or figures, or any parts of them) too small; they may become virtually unreadable when shrunk to, say, 60% for thesis or journal publication.

Titles of Tables and Figures

Table and figure titles should be in the same-size font as your main text (i.e., 12 point) – even if the table is large and you therefore use a smaller font on the rest of it, in order to get it on a single page.

As with section headings, the most important single rule for the style of table and figure titles is that they be consistent with each other (and with the Table of Contents or Table of Figures and Tables, if you have one), and with the text itself. If in the text you say “Table 1 (below) shows…”, the words you use to describe the table should match its title pretty closely – and vice versa. (More on this below.)

Generally titles should look like:
Table 1. (with period) **The title**
or
Table 1: (with colon) **The title**
and the same with **Figure 1.** (or **Figure 1:**) – but *not* Fig. 1 (i.e., don’t abbreviate *Figure* – except perhaps in the text).

The words Table and Figure should be capitalized (and perhaps bolded – possibly even the entire title). Capitalize the first word of the actual title, but it is not generally necessary to capitalize more than the first word, and no period is necessary at the end. Titles on tables and figures need no space separating them from the table or figure – but any such space should of course be consistent on *all* tables or figures.

Table and figure titles longer than one line should have a hanging indent, so that the second line starts where the actual title on the first line starts, after **Table 1:** or **Figure 1.** or whatever (see *Keywords* on p. 5 of this Stylebook for an example of a hanging indent).

With tables, if there is a horizontal line at the top – or a box around the entire table – then that provides an underline for the title, so no further underline is necessary, and would probably make the table look cluttered.

Figure titles are usually – but not necessarily – placed below the figure, and it’s probably not necessary to underline them either (as used to be done, when using a typewriter). Bolding **Figure 1:** (and, again, possibly the entire title) should be sufficient to help the reader easily find the title.

Table and figure titles should be simple, but thorough, and should follow a very clear pattern, describing the essence of what’s being reported, while mentioning the categories in which things are reported (“by sector and weight” or whatever), as well

as any relevant date or period. If a later table or figure is a variation on this one, its title should be identical except for making that variation clear.

Creation of an automatic Table of Figures and Tables – at least for your own review before submission – can reveal formatting inconsistencies, and allow you to improve wording as well. Having such a table could also give the reader an overview of what's coming – before starting to read the paper – while making the tables and figures more accessible to a reader who wants to find one of them later. But, like a table of contents, it may look pretentious, and thus you may want to delete it before submitting the paper to a journal for publication.

A Table of Figures and Tables is easily constructed, just like a table of contents. The only difference is that you use a different set of heading-levels, so that the *Table of Contents* function knows which headings to pick up for which purpose. For example, you can use heading-levels 1-3 for sections, subsections, and sub-subsections, and use heading-levels 4-5 for tables and figures.

Of course, if there aren't too many of them, you can include table and figure titles with section headings directly on your basic Table of Contents – just expand the number of heading-levels included.

Information which appears in a figure title – such as the date – may not need to appear again along the figure-axes, where it may be obvious anyway. On the other hand, units – such as percent, or currency – or other information, which should properly appear along an axis, may sometimes usefully appear again in the title. Information which appears in the title or on an axis should of course be consistent in style with the text itself – more on this under *Abbreviations* below.

Tables

The information in tables (and figures) should clearly relate to your text, and vice versa. There's little point in including a table (or a figure) which doesn't have a real purpose as revealed in the text; and if it does have a real purpose, then it must be very clear how it supports that purpose. For instance, if the text discusses how the year-totals of several categories (revenues, or sectoral outputs, or whatever) have changed over several years, then it would be helpful if the table showed those totals very clearly. Readers should not be expected to do the addition – that's your job: Add a "total" column or row to your table.

Even beyond that, if there's a place for an "All" column, put it in (perhaps separated by a line); if there's any other obvious place for a total (either vertically or horizontally), put it in.

If you have a total in a column, put a *totaling* line above it, to help make it obvious that it is in fact a total. As we're used to adding numbers *down*, it's probably also more intelligible to have totals at the bottom of columns, rather than at the top.

Figures usually look reasonably good – though Tufte 1983 shows how to raise the expectations-bar. But tables often look either cluttered, or scattered, or sloppy, with too many or too few border-lines, data not lined up in columns, etc.

If your table has lots of models – or even just two – separating them with vertical lines can help to make that clear.

Tables need to be clean and neat so they're readable, but beyond that they should be intelligible in themselves, without one's having to read the text to understand generally what's going on.

Use consistent format, consistent ordering and naming of variables, etc., so that – if in fact there's no reason for their being different on this table from the last one – the reader isn't left wondering *why* they're different. On the other hand, if there *is* a reason for their being different, make the reason clear.

As mentioned, tables (and figures) should almost always go margin to margin (neither inside nor outside the margin), giving maximum width for row and column headings.

If you only have small numbers, don't put huge amounts of space around them; don't leave so much space between columns that it's difficult for the eye to follow a line. (There may be a conflict between this and the previous point that you'll have to adjudicate.)

Information should be evenly spread across the page – but, depending on the content of each column, not necessarily in *equal-width* columns – leaving enough width so that, whenever possible, row-labels (in the left-hand column) can be completed on a single line. Of course don't use so much space there that the other

columns are jammed up against one another, either. If that happens, try using a smaller font.

When pressed for space for column-headings at the top of a table – or to make two levels of row-labels – you can turn text up to 90° using WordArt (in MSWord). Or turn the table sideways on the page to get more width.

Column-headings and data should generally be aligned *right* (or *decimal-aligned);* either way, similar data (at least) should end up *decimal-aligned*. Row-labels should generally be aligned *left.*

In a column of similar data, all entries should generally have the same number of decimal places; an exception is if they are calculated results and you (quite properly) only want to report two or three “significant” digits. In fact it makes for neater, more attractive, and more *scientific* papers if coefficient-values, t-statistics, etc., are rounded off to just a few significant digits. Just because a computer will compute to ten decimal places doesn’t make the information useful; and – in addition to making tables look cluttered – reporting it belies all the concern with “significance” which authors otherwise show.

Decimals are indicated by a *period* – not by a comma, as in Swedish. Numerical data of more than 3 (or at most 4) places to the left of the decimal point should have *commas* every 3 places for easier readability – not periods, or spaces.

Significance-indicators (e.g., asterisks), if you use them, should be in a separate (narrow) column so that they don’t interfere with alignment of the data, and they should relate to the coefficients themselves – not to standard errors, t- or z-statistics, or prob-values, which can often better be in another (narrow) column, so that the table doesn’t spread too far down and off the page.

But if there are many columns and few rows, standard errors (or whatever) can instead be reported *under* the coefficients, in parentheses (with a note identifying them in the title, or under the table).

Make the style and content of column-headings and of row-labels – e.g., names of variables – as identical as possible, so that the reader isn’t distracted by unimportant differences. When at all possible, spell them out fully, so that they are easily and

immediately intelligible to the casual, and even uninformed, reader. Don't leave readers guessing about the meaning of your idiosyncratic abbreviations, nor force them to remember them.

All *column* headings – on all tables – should have the same capitalization-pattern; and all *row* labels – on all tables – should have the same capitalization-pattern. The capitalization-patterns for column headings and row labels might also be the same, though possibly not.

If you list a Source for your table, it should come immediately after the table (**Source:** …), before any Notes, which should start on a separate line. Both should have periods after them. If you have multiple notes, it's probably more readable if you start each note on a separate line as well (under the heading **Notes:**).

You might want to include sources for your tables (and figures) among your references, with only an abbreviated citation on the table or figure itself.

If, in the text, you discuss certain data found on a table, you might want to **bold** or shadow it on the table to make it more easily findable. And certainly double-check that what you say in the text actually matches your table! (Too often I've seen examples where it didn't.)

Figures

Like tables, keep figures uncluttered, so that readers can focus on the important information – which, of course, you must provide clearly. Indicate units for the axes, but if (for example) the horizontal axis indicates years from 1980-2000, you don't have to also *label* it "years"; that's obvious.

Whatever scale or period you have on the axes of one figure, use the same scale or period on all other figures where it's appropriate; in other words, again, no irrelevant differences.

If you have symbols on figures with a *key* indicating what the symbols mean, use the same symbol to mean the same thing on every figure where it appears; list the symbols in the same order on the keys on every figure; use identical descriptions on the keys; and put the keys in the same place on the figures.

As indicated, Tufte (1983) shows many further ways to improve the integrity and presentation of your figures.

Appendices

If you're merely keeping tables and figures separate, but you have places for all of them marked in the text, then you can place them after your References, but you need not label them as a formal Appendix.

However, you may have tables and/or figures that you want to put in a formal Appendix. You may also have *other* information of some sort that you want to include *with* but not necessarily *in* the main body of the paper. Then, for example, you may have **Appendix A: Tables and Figures** and **Appendix B: Derivation of Whatever**.

When you have tables or figures which are properly in an Appendix, then to keep their numbers distinct from those in the actual text, you can label them **Table A1.**, **Figure A1.**, etc. ("A" for Appendix – but if you have Appendices A and B you can have **Table A1.**, **Figure A1.**, **Table B1.**, **Figure B1.**, etc.).

Writing

Text

Writing is an art. Rhythm (the number of syllables, and where they are stressed) and melody (the sound of the word) are important. But beyond that, of course, to be considerate of the reader, every word of your text should convey essential meaning. It's better to say something useful in a single page than to pad it and stretch it into several pages (Rasmusen 3.7).

Read and reread every sentence, read it aloud: Is every word important? What words are you over-using (perhaps with the intention of being thorough)? What words can you cut without significantly altering the meaning? What phrases can easily be replaced by a single, probably simpler, word?

Another excellent way to improve the flow of individual sentences is to experiment with alternatives, moving words and phrases around; also try putting in words that will make the meaning clearer, preventing any possible confusion. If readers *could* misunderstand, it's your responsibility to make sure, if possible, that they don't.

Similarly, reread paragraphs and sections and explore all imaginable alternatives. Could this sentence go first instead of last? Could this paragraph go earlier or later, even in a different section?

Your facts must be accurate, of course, your theory valid, and your conclusions at least plausible (if not brilliant) – but beyond that, you must present it all coherently, in a clear and logical order. This isn't oral storytelling, in which it's often traditional (even charming) to go round and round, repeating things many times. When reading, rather, one can go back and read again if one wants to. So usually you only need to state things once.

Write a story that people want to read, that they won't put down because it took a few seconds longer than they thought it should to understand individual paragraphs, or how it all fits together. At every point in the text, the reader wants to be clear about: Where are we? Where are we going? and Why? Keep a clear structure in mind, and refer to it in the text.

An excellent step – after writing a draft – can be to outline it *as written*, and then simplify and reorganize the outline before rewriting. Ask yourself, what is the point of

this sentence (or paragraph, or section). What's the point of the next? How can all these points best be organized? How can the relationships between them best be explained?

If something doesn't really seem to make sense – or to fit where it is – then either explain it more fully, move it elsewhere, or delete it.

If you're going to define or explain something, do it the *first* time it comes up – or possibly even earlier, where you define or explain other similar things – but *not* after you've been using it for several pages.

Choose your terms carefully; if you consider them more-or-less equivalent to other terms that are often used, explain that fact once, early on – and then stick to one set of terms.

If you discuss a point in several places, can they be combined and streamlined? Set out your main points early (in some clear and logical order), then develop them extensively (in the same order), and later perhaps summarize them briefly (in the same order). That's repetition enough. (McCloskey 1987/2000:11,16 argues that even that much repetition isn't necessary.)

Every time you list two or more things, consider what's the most logical order in which to express them. Is one larger or smaller? Is one more or less important? Is one logically or temporally prior to the other? Land and rainfall seem prior to crops-produced; employment seems prior to earnings. Why not express them in that order? There may be occasions to use the reverse order, but the point is that there should be a reason – which you make clear – for changing it.

If you list some points you're going to discuss, it's probably not necessary to number them, or even to refer to them as "first, second, third…" (unless they're rather lengthy and complex, or there's some logical reason for the number, or for the order). But discuss them in the same order as you first referred to them. And when you start to discuss each of them individually, use the same words by which you referred to them the first time, so it's totally clear that these *are* in fact the points you referred to earlier.

When you refer again to these points later, use the same words again (perhaps condensed), and again in the same order, so that it's very clear that you're not introducing anything new, you're simply referring to what you said before. If you say it differently, readers may wonder: "What is meant by that? It sounds like what was said before, but it's slightly different too – why? What is the writer trying to tell me here?" This is a waste of the reader's energy and goodwill, an invitation to put the paper down as poorly written. The object is to keep the reader focused on what you think is important, and to avoid raising such distracting questions.

Of course if you need to add some new information here to something you've discussed earlier, be very clear that that's what you're doing. But would it have made sense to include that information earlier, so that you wouldn't have to return to the subject here? If not, make it clear – briefly – that you know you're bringing it up again, and – briefly – why you're doing so.

As mentioned earlier, use terms in your text that reflect your section headings and your table and figure titles (and vice versa).

If you say "We can see from Table 1 (or Figure 1) that such and such," be sure that we can really see it. Does it pop right out at us? Or do we have to think about it, perhaps calculate something? If the latter, it would be better to say, for example, "We can conclude from Table 1…" Even better would be to make your point clear on the table – add a row or column if necessary, perhaps bolding or otherwise highlighting the data that supports the point you're making – and then say "This is true (Table 1)". That way, *you* stand for whatever you're asserting to be true, and you're offering the table as evidence. Double-check that what you're saying is in fact true.

Paragraphs

Besides starting on a new line, there are two basic ways to separate paragraphs: leaving extra space between them, or indenting the first word. Indenting is useful for publications trying to save space, but is totally unnecessary when drafting a paper, and besides it can lead to problems (discussed below), so I strongly suggest leaving extra space instead. You can use *Format/Style/Body text/Modify/Paragraph/Space after* (in MSWord) to automatically and uniformly set how much space to leave (say, 6 or 12 points); if it doesn't look right for any particular purpose, you can use *Format/Paragraph* to change it locally.

If you insist on indenting, I suggest avoiding the practice (is it Swedish? perhaps also British?) of indenting the first word of all paragraphs *except* for the first paragraph in each section. Perhaps because I'm not used to it, this practice seems ambiguous and potentially confusing to me. Because one has to do it manually – one can't tell the computer how to exclude the first paragraph of new sections automatically – it's easy then to forget to indent when appropriate.

If you're committed to indenting – instead of using space-after – it might thus be better to indent all paragraphs, without exception. But, of course, if a sentence continues after an equation – e.g., saying "where X is a variable…" – then that line should not be indented, as it's not a new paragraph, although it may have a paragraph-break before it.

The opening sentence of a paragraph typically defines its topic, which the rest of the paragraph explains or expands upon. For example, a common type of paragraph can be constructed as: lead-in sentence, elaboration, illustration, conclusion – to which the lead-in to the next paragraph usually bears some obvious relation (which you make clear).

If you reread a paragraph and discover that the rest of it contradicts the first sentence (or appears to do so) – or that it opens up a whole new topic – then your paragraph is badly organized. Split the paragraph, or at least rewrite it. Could the last sentence go first?

At the end, before you turn your paper in for review, read it again (preferably more than once, of course). Does every sentence fit in its paragraph, and are connections between paragraphs obvious? If not, rewrite. Try reorganizing the order of the paragraphs, or shifting some paragraphs (or parts thereof) to other sections.

Footnotes (or Endnotes)

Generally, keep footnotes – or endnotes – to a minimum. But if you reread a paragraph and find a line which, while containing interesting information, doesn't really seem to fit into the logic of the paragraph, nor would it fit better somewhere else, and yet you're not willing to delete it, it might be a candidate for a note.

So as not to unnecessarily disrupt the flow of meaning, note-markers in the text are usually written *outside* the closing punctuation at the *end* of the sentence[13] (the note-text should make it clear which part of the sentence the note refers to)[14].[15]

Notes are easier to find and read if they're at the bottom of the page (footnotes), rather than at the end of the section or paper (endnotes). However, some journals prefer endnotes; in MSWord you can easily change them all in either direction if need be.

Sometimes footnotes inexplicably break onto an additional page, but you can at least reduce this tendency by turning on *Format/Style/Footnote text/Paragraph/Line and Page Breaks/Keep lines together*.

A hanging indent – so that the note-numbers are set outside the vertical text-margin – can make notes look nicer, and easier to find any particular one if there are lots on the same page (e.g., on the sample title page on p. 7).

Usually notes are in a smaller font than normal text; e.g., 10 point, if normal text is 12 point. All notes should use the same font-size – easily accomplished (as with hanging indents, keep-lines-together, and so much else) if you use *Format/Style*.

English

Listing all the subtle points that could be made with regards to correct, clear, and concise writing in English would be extremely tiresome, so I'll just mention some issues that come up frequently.

Some words have both British and American spellings, *both* acceptable, but – have you heard this before? – be consistent, not only for those particular words, but for the entire text. If you set *Tools/Language* as preferred for the entire text and then run spell-check, it should find any inconsistent spellings.

Write in complete sentences, i.e., with subjects and predicates – especially for American journals! (Works published in Britain more often have what – to an American – are inappropriate sentence-fragments.)

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[13] Not here.

[14] And not here.

[15] But here.

Generally, active sentences are better than passive ones: Say “they did this” rather than “this was done by them”. An exception is in expressing traditional scientific modesty, where you may wish to explain your procedure as “this was done” rather than “I did this”.

The most common single grammatical mistake that many Swedish authors make when writing in English is pairing singular subjects with plural verbs, and vice versa. Another common mistake (more stylistic than grammatical) is overuse of the definite article “the”. Where perhaps the definite form would be used in Swedish, oftentimes it can be left out in English to streamline the sentence.

An opposite problem is leaving out the definite article “the”, such as before “Bank of Sweden”. Institutions often should have the word “the” in front of them, and if you’re using their proper name, sometimes it should be capitalized (e.g., The John’s Hopkins University) – although capitalizing it usually makes the institution look pompous (so, for example, Johns Hopkins often drops “the” completely).

Another common mistake is not using enough commas to set off parts of complex sentences. *Of course* it’s possible to overuse commas (I had one after “of course” but just took it out). And it’s certainly possible to write overly complex sentences, so a first suggestion is to simplify them. But when the sentence is as simple as reasonable, and yet some secondary phrases or clauses remain ambiguous, it’s very likely that the sentence could use some commas to help make the meaning clear.

In Swedish (and perhaps often in British English as well?) – unless normal sentence-order is reversed – adverbs are typically placed after the verb. But adverbs or small adverbial phrases, set off by commas, often unnecessarily break up a sentence. At least in American English, words or phrases such as “however” or “for example” can often be moved to the beginning or end of the sentence, so that the main flow of meaning from subject to predicate is undisturbed.

“The former”, “the latter”, and “respectively” are usually better avoided. They have their uses occasionally, but you can usually find a much simpler way to make your meaning clear, without forcing the reader to look back to see what you’re referring to. (“Respectively” is also not used exactly the same as the Swedish *respektive*, I believe.)

"Both" suggests two (perhaps contrary to the Swedish usage of *båda*). So don't say "both this and that and something else" – it will sound odd to many native English-speakers.

"Between" also suggests two; if there's more than two, try "among" instead (though Paul Brians disagrees: http://www.wsu.edu/~brians/errors/nonerrors.html#between).

Don't say "*both* this *as well as* that" – that's overdoing it. "Both this and that" is sufficient; or "this as well as that".

Use parallel structures: Say "both *in* Göteborg and *in* Stockholm" or "*in both* Göteborg and Stockholm" – not "in both Göteborg and in Stockholm".

And in general, parallel structures can add coherence to your writing. As noted earlier, if you refer to two or more things more than once, use the same terms and in the same order.

If you estimate or round-off something, it's *about* X%, not *around* X%. It's a picky point, one that most English writers aren't aware of – in fact my wife learned it in an English-as-a-second-language course in Alaska, and convinced me of its greater precision. But sometimes "around" feels appropriately vague.

I use "which" more often where some writers use "that" (and where either is probably acceptable); I restrict the use of "that" to places where "which" doesn't fit (as in the next sentence). Exactly why I have this style-preference I'm not sure, except that it sounds better to me. (Jack Lynch explores this as well as many issues at http://andromeda.rutgers.edu/~jlynch/Writing/t.html#that.)

The point here, again, is to get you to consider your use of language in detail, not to give you the "right" rules to follow. Someone made up the rules, after all. I'm suggesting that you at least make up your own.

The Language of Economists

If you find this section (that's beginning) uncomfortable to read, that's the point: To challenge you to think more about the words you use. You don't have to agree – but think about it!

You may find noted economists who disagree – at least in practice – with style preferences that I or any other copy-editor advocate. But as any experienced copy-editor can tell you, just because you can find fancy-sounding phrases in "the literature" doesn't make them good writing, and just because someone is a well-known economist doesn't make them a good writer. Avoid "deference to expert authority… where it [is] not really warranted" (Austin 1970:112).

Conversely, being a good writer can help you become a better economist. If you write better you will probably think more clearly and produce better economics – and in the process you will help to raise the standard for other economists.

Avoid phrases that don't add anything to the meaning, such as "With regards to this" or "When we look at the table we see…" or "It's important to note that…". Usually such phrases are useless and can simply be cut. If you're talking about "some medium and large factories", it doesn't add anything to say instead "some factories in the medium- and large-scale category". It doesn't make it more scientific, or more true, or anything; it's just garbage in the text, making it harder to read, harder to understand what's actually important. It's jargon; better to keep it simple. (As noted earlier, Becker 1986:ch.2 explores the motivations for this practice at some length.)

Don't get caught up in the magic of scientism (Myrdal 1969:42), endlessly repeating abstract jargon in a variety of permutations. Real technical terminology should be explained once, briefly but thoroughly, and then cut to the minimum consistent with telling a clear and intelligible story.

Often it's better to use concrete examples to make sure that the reader can understand exactly what is meant. (Rather than X and Y, perhaps *eggs* and *wine*, as someone once joked.)

Specificity is also important. If "some believe", who are they? Some in the government? Some local economists? Some donors? Some journalists? Of course if you've already made it clear, then you don't necessarily need to repeat the entire phrase.

Similarly, if you're talking about a particular country, you don't have to repeat that information in every sentence. If you're talking about the United States, you don't have to refer to the American agriculture sector and American banks and U.S.

interest rates, except where you're specifically comparing them to foreign sectors, banks, and rates.

How else can you simplify? "Growth rates" instead of "rates of growth"? Or for that matter, just "growth"? (when the fact that you're talking about rates is obvious, or irrelevant.) Similarly, only specify "levels" (of income, or whatever) when it's essential for your point.

It's important to pay careful attention to what words mean, and to what you really know. If you have estimated the effects of variables on *consumption* (but think of consumption-variation as a proxy for *income*-variation), then – when reporting results – be clear that the effects you found relate to the *consumption* you measured, not to the income for which consumption may (or may not) be a good proxy. You can explain the connection to income first in the introduction, and again later in discussion and conclusions – but *not* when reporting results. Mixing references to income into the results, where they have no basis, looks poorly thought out, unscientific.

If you insist on using a word in a strange and unusual way – which seems to be a tradition among economists (Myrdal 1969:42; Varian 2001:133) – put it in quotation marks and explain carefully what you mean the first time you use it, and why no more normal word would work.

Avoid constructions with alternatives in parentheses, such as "If prices go up (down), effective demand goes down (up)." Such mathematicized constructions are difficult to understand easily and quickly, especially if they are more complex than this simple example. Your job is to make your thoughts as immediately intelligible as possible – not to pretend to greater sophistication by making them harder to understand.

As noted earlier, presenting empirical procedures in present tense seems to be an unjustified attempt to create authority – even if you're just attempting to do things the "right" way (copying others who have done so). But shouldn't estimations, tests, etc. really be presented in the past tense? Are you doing them in the paper, or didn't you certainly do them before? It sounds a lot more scientific to report the procedures you followed (in the past) rather than to pretend that you're actually doing them in the paper, when in fact you leave out most of the details – including the full data – so that one cannot even follow, and verify, the process completely.

Most authors “slip” occasionally anyway, acknowledging that they also *did* – past tense – some other procedure, which for some reason they’re not reporting fully here. We’re taking your word for the process you followed; it will sound more scientific if you report it accurately. I thus suggest avoiding present tense in this context and, when you do use present tense, think carefully whether it accurately represents what you’re expressing; which sometimes it will, of course.

In some circumstances, an alternative to describing your empirical procedures in the past tense might even be to write them as instructions how to repeat your procedure. (If it’s a *theoretical* paper, you might find it a useful dramatic *fiction* – more *involving* for the reader – to present the argument in the paper as though you were developing it as you go along; and there seems no harm in doing so.)

Some writers also use the present tense in reporting their empirical *results*, which nevetheless in fact relate to some particular data, taken from some particular place at some particular time (Solow 1997:53,56), and analyzed with some particular techniques. Using the present tense to report such results suggests that you think that they are universal, valid for all times and places, robust to changes in technique, etc. If you believe that, fine, but – with traditional scientific modesty – argue that case in your conclusions, don’t simply assume it in presenting your results. “One of the important distinctions between ideology and science is that science recognizes the limitations on what one knows” (Stiglitz 2002:230).

Some constructions seem rather arrogant, such as “textbook style” (an authority speaking to students) when “collegial style” (part of a “conversation” among equals) would be more appropriate. An example, which adds nothing positive and can usually simply be left out, is: “It is important to note that…” or “It is worth noting that…” or simply “Note that…”. The reader’s job is to note everything you say, so telling them to do so is redundant. If you think something is quite important, you can find other ways to emphasize it, but let readers judge for themselves how important it is.

I wouldn’t be surprised if you can find lots of places where *this* text could be improved in this respect, and if you point them out to me, I’ll work on improving it! But in my defense, this isn’t part of that scientific conversation directly, but rather it’s a how-to manual, where such language may be more appropriate – or?

There's always a smooth way to avoid a sexist construction. Clumsy constructions such as "he/she" are only appropriate if sexism is a particular issue in the discussion, which you therefore want to emphasize. Instead you can use plural pronouns (e.g.: "When an employee arrives at work, *they*…"). Shakespeare did it; you can too. Or use the plural noun directly, *employees*.

Avoid using "we" unless there are two or more authors, or unless it can clearly be construed as including the reader. Sometimes it seems that authors may be reluctant to take sole responsibility for their work, even though theirs is the only name on the title page. If you're not willing to take sole responsibility for the result, shouldn't you, on the title page, add the names of the experts who have advised you? But even if you are the only author, you can still say "we will discuss below", because the reader can be imagined as part of the discussion. Don't say "we tested", however, because clearly the reader was not included when the test was done. As already discussed, saying "we test", or "we will test", seems fraudulent as well.

Overused/Misused Words

With possible exceptions – such as if you're discussing the effects of *unexpected* inflation – isn't it generally inflation itself that people are primarily, and justifiably, concerned about, rather than "changes in the inflation rate"? It will usually sound a lot more real if you thus talk about inflation – including a rise or fall in inflation – rather than about the inflation *rate*. Usually you'll say that inflation rose or fell to X%, and percent is clearly a rate anyway, so why burden the reader with saying it twice?

The same applies to "the growth rate" – isn't it growth itself that people are most interested in? Isn't it just as meaningful – or moreso – to say that growth fell, rather than that the growth rate fell?

Incidentally, can growth be negative? Does it then "return to being positive"? I'll grant that we can "grow weary with work" or "grow smaller as we get older", so such usage may not be totally without precedent. But as noted, economists have a well-known tendency to use language in strange ways (perhaps after training in coming up with counter-intuitive results). I discourage it. It would be better to say that, first, production fell, then economic growth resumed.

Only something with value can go up or down in value, can appreciate or depreciate. An exchange rate is a ratio of two values, a number without value. Thus while c*urrencies* can appreciate or depreciate, exchange rates cannot.

Exchange rates are also ambiguous: Is it kronor/dollar, or cents/krona? Which one went up or down when the exchange rate changed? Better to talk about the currency directly, when possible.

Development, in the social and economic sense, refers to differentiation of functions – including, but not limited to, markets and industrialization. Isn't *every* country "developed" to some extent, and *every* country "developing"? I suggest "industrialized" and "less-developed" as closer to what we really mean. (I'm open to better suggestions if you have them: "high-income" and "low-income"? or "advanced" and …?)

Technical words should be used precisely, but non-technical words – that don't have precise definitions – should not be overused, which is when they become jargon. For example, "this captures that" usually means that this "expresses" or "represents" that. To say "this model better captures the actual behavior" means that it expresses (or represents) certain characteristics of the behavior (which ones?). Try using those alternatives, or finding others. ("Captures" is okay sometimes too, of course.)

Some other overused/misused words:

- "Agents": Unless your model is quite abstract, substitute something more concrete, like "firms", "consumers", "employees", "people", etc., to make it clearer what you're talking about.
- "Applied", as in this "approach" or "framework" was applied: Of course this is okay to say sometimes, but can you think of another way to say it? (What exactly is an "approach" or a "framework", anyway?)
- "As much as": Does this say anything? Does it mean that you'd like to use an exclamation point? (Then do so!) The only time it might be useful would be if you were reporting a series of ranges, which might go "as low as" in some situations and "as high as" in others – but those constructions also often seem meaningless.
- "Characterized by": There's often a simpler way to say it; find it.
- "Developments": Often all that is meant is "changes". Saying "behavior", "evolution" (e.g., of prices), or "process" also often sounds pretentious. If you want to use them – and if it's important to your overall point – make it clear why and how the subject you're talking about should be viewed in this way, almost like an organism, rather than merely as the collective result of a variety of forces.

- “Different”: You don’t have to say “among different cities” – or sectors, or whatever – because, if they’re plural, they’re obviously different; leave it out. When you find yourself using the word “different” and you can’t simply leave it out, check whether the word “various” might better substitute for it.
- “Explains” or “is explained by”: Don’t you usually mean that there is some statistical correlation? Causality could perhaps go either way, or come from some other source? Similarly with “effect” or “impact” – can you really assert causality? What is truly the *cause* of a “time-effect”? (I realize that some of these usages are common in economics, and perhaps even in some other social sciences. But being aware of their inadequacies can lead to improvements; we are, after all, responsible for improving the profession if we can. Simply getting published isn’t sufficient.) If you actually want to assert causality, can you specify a mechanism for it – preferably a testable one?
- “Facing”: Firms were facing certain conditions, as was the entire economy – that may be an appropriate description sometimes, but be careful with it. If it’s a technical term, define it and use it carefully. Otherwise, avoid it.
- “Given”, when “if” is meant. If you mean “if (a certain condition is met)”, make it clear also why you believe you can assume that that condition was in fact met.
- “High” or “low”: Compared to what? Make it clear what your standards are.
- “Human capital”: This can be a useful concept, but in an empirical paper, if you’re measuring it by “years of education”, it’s better to use that term – or simply “education” – when discussing the results. Otherwise it’s just jargon. (Is it education or “schooling”? Your choice.)
- “Implied” suggests an overly – and too-simply – deterministic logic in the situation, which I doubt is truly there. Depending on the context, some alternatives might be “meant” or “caused” (but see “explains” above).
- “Innovation” when what is meant is some “shock” (also often overused) or simply some change: Can “technological shocks” be negative? If so, how? If not, perhaps “inventions” or “technological breakthroughs” would be more appropriate?
- “Instruments”, as in “policy instruments”: If you simply mean “policies”, why not say so?
- As noted earlier, “methodology” is the comparative study of methods, and if that’s what you’re doing, fine – and so much the better. But if you just mean “method”, or “set of methods”, why not say so simply? (Okay, “terminology” is used for a set of terms; it’s too late to rescue that one. But why contribute to further degradation of the language?)
- “Modern” (as in “modern sector”) is often overused, and confusingly too: Sometimes it seems to mean “market sector” (as opposed to subsistence production, for one’s own consumption), but other times it seems to mean “formal sector” (although at least a large part of the informal sector is also part of the “modern” market-sector). Avoid the word entirely unless you have – and make clear – a very precise definition for it. Such jargon – which isn’t used precisely – only gives others the impression that you don’t know what you’re talking about, and gives economics a bad name in the process.

- You can be “motivated” to do a good job on a test, and you can “motivate” others to do the same – but you *explain* the reasons for your answers, you don’t “motivate” them. (Swedish *motivera* seems to be used differently.)
- “Observations” usually refers to the raw data which one is analyzing, and should not be used to refer to the *results* of the analysis.
- “Perform” (and “performance”) and “outcome” are useful words – but watch out for overuse.
- “Presented” (or “displayed”), as in “Table 6 presents…” or “data is displayed in Table 1”: This often sounds too formal, pretentious. Why isn’t the data simply “shown” in the table?
- But does a table “show” that you are right about one or another conclusion from data? Many authors say: “As the table shows, …” But unfortunately, as noted earlier, I’ve seen very many blatantly wrong interpretations of data in tables – and there is as well the possibility that your table itself may be wrong. I suggest a more modest formulation – in which you nevertheless take responsibility for your assertions: “Such and such is a fact (Table 1, below).”
- “Robust” or “robustness”: Define exactly what you mean; e.g., robust to changes within the specification? Or to totally different specifications? What is the relationship of robustness to statistical discernibility?
- “Sector”: If you say “formal-sector employment”, you probably could just as well – and more simply – say “formal employment”. If you say that something affected the manufacturing sector, you could probably just as well say that it affected manufacturing – when you’re obviously talking about sectors, not about the actual manufacturing process.
- “Sex” refers to anatomical and physiological attributes. Gender refers to learned cultural and psychological attributes (Harris and Johnson 2003:220).
- “Social”: If by it you mean “collective” (economic) welfare, or “comparative” goods, “status” goods, why not just say so? *Public goods* used to be called “social goods” but, fortunately, this misuse has been corrected.
- “Social capital” can be a useful concept, but what exactly is it? How is it social? How is it capital? As with “human capital”, if you’re measuring by some particular variable, better to refer to that variable when reporting your results, rather than referring to social capital – unless you’re quite sure that you’ve defined social capital clearly and measured it comprehensively.
- If you have people who participated in unemployment training, it’s better to refer to their “participation” or their “training” rather than their “treatment”, even if your analytical model is based on medical treatment. Adapt terms to your own situation, so they don’t sound ridiculous or inhumane.
- Similarly, even if you’re using a framework originally used to analyze equipment *failure* and related *hazard* and *survival* rates, find some better terms to use if, for example, you’re referring to the unemployed finding jobs. Failing to get a job might endanger one’s survival – depending perhaps on the unemployment benefits available – but though one has to survive in order to remain unemployed, remaining unemployed is not “survival”, and finding a job is not “failure”. Similarly one could have “waiting time” until finding a job, but not “failure time”.

- The word “risk” is also problematic in such circumstances. One can have a “probability” of getting a job, but is it a “risk”? (Only if one doesn’t really want the job.)
- “Significant” when you mean “substantial”: Leave “significant” for statistical significance, even if – as suggested – you use the term “statistically discernible” for that relationship.
- “Utility” or “welfare” are often used to sound scientific when a more general concern with “happiness” might be more appropriate. Using the word “happiness” – when that’s what you mean – could help, for example, to protect against leaving love, friendship, and other social goods out of consideration, when they should properly be included. But otherwise you should specify clearly that you mean *economic* utility or welfare (Little 1973:230).
- “Variables such as…”: Say instead “the variables this, that, and some other…” (or drop the word “variables”, and just refer to them directly).

Abbreviations and other Notation

The abbreviation “e.g.” stands for the Latin *exempli gratia* and means “for example”. The periods indicate that it is an abbreviation, that something has been left out of each word. It is usually set off by commas – just as the phrase “for example” usually is – though there can be exceptions. It should not be thrown into the middle of a sentence, as may be common with the Swedish equivalent.

The abbreviation “i.e.” stands for the Latin *id est* and means “that is”. Again, the letters are followed by periods to make it clear that each word has been abbreviated. And as with “e.g.”, it is usually set off by commas, just as the phrase “that is” usually is. Neither *e.g.* nor *i.e.* should be used at the beginning of an independent sentence, though they can be used after a semi-colon, to begin a conjoined sentence.

As noted earlier, the abbreviation “et al.” stands for the Latin *et alii* (“and others”). There is no period after “et” because it’s a complete word, but “al.” does have a period, because it’s abbreviated.

It is traditional to *italicize* Latin and other non-English expressions (for example, *ceteris paribus, de facto, ad hoc*), though as not all do so, it’s your choice; in this paper I haven’t capitalized the common abbreviations from Latin – i.e., e.g., etc. – but I would italicize the expressions above.

Capitalize when you refer in the text specifically to Chapter 1, Section 2, Table 3, Figure 4, etc. (including in parentheses), but not when you refer to “the next chapter”, “the last section”, “the table below”, “the figure above”, etc. It can also be helpful to

give a direction for finding them when referring to specific tables or figures; e.g., “Table 1 (below) shows…” or “such and such is true (Figure 1, next page)”.

Capitalize also when you refer to Eq. (1). When you refer to equations like this, the numbers are typically contained in parentheses, probably because the original equation numbers are usually also written that way (see below).

You may say “during *the period* 1987-1993” or simply “during 1987-1993”; or in either case you can omit the *second* century-designator, writing instead “1987-93”. If you prefer to include the second century-designator in the text, you could nevertheless use the shorter form on tables. The *hyphen* (-) between the dates should not be a longer *dash* (–), and there should be no spaces before or after the hyphen.

You can use “1991/92” (with a slash) to distinguish a fiscal year or agricultural season (which covers parts of two calendar years) from “1991-92” (with a hyphen), which might better be left as referring to a two-year period. Sometimes you may be able to simplify to a single-year designator, however. For instance, if you’re referring to the amount of corn (maize) harvested, it may be true that it was the result of the 1991/92 season, but if it was in fact harvested in 1992, why not refer to it that way?

If you say some change happened “*between* 1987 and 1993” (perhaps trade doubled), do you really mean “between”? Do you mean to exclude 1987 and 1993? If not, if you’re simply comparing them, why not say “from 1987 to 1993”, or “during the period 1987-93”?

Writers often mix various notations for a particular currency in the same paper, e.g., Kenya Pounds and Kenya pounds; or (for Kenya Shillings) KShs and Kshs – and there might be other alternatives, perhaps with periods. Make up your mind, choose a single notation, and stick with it.

You can refer to USD or US$ (*before* the amount), or to U.S. dollars (*after* the amount, if specified, and with periods on U.S.). But there is no reason to capitalize *dollars*. (Non-native speakers tend to capitalize important words – as in German – a lot more than native speakers do; but it’s often not necessary, and simply distracting for those not used to it).

If you refer to U.S. dollar amounts, you can write USD 34 billion or US$34 billion; there is no space after the dollar sign ($). If you abbreviate this information on the axis of a figure or on a column-heading of a table, refer to “US$ billions” or “USD billions”, because the unit is plural, like centimeters or grams.

Always write out a number if you insist on starting a sentence with it; but better to reorganize the sentence – which you’ll have to do anyway, if the number is large; otherwise it will look ridiculous.

When discussing percentages in your text, say “2%” (in mathematical notation, and with no space); or say “two percent” (in words; this is required at the beginning of a sentence, and you may prefer it in some other simple situations as well). Mixing numbers and words, as in “2 percent”, simply slows down the reader pointlessly (although some journals may prefer it – and if so, they will change it themselves, or ask you to do so once your paper is accepted for publication).

Abbreviations of special phrases (e.g., GNP or GDP) can be useful in the text. Some – such as those – may be so common that they don’t need explanation, and you can simply use them directly. But usually such abbreviations should be explained the first time, followed by the abbreviation (in parentheses); occasionally you can put the abbreviation first, and then explain it (in parentheses). If you *don’t* use the abbreviation later, however, what’s the point of introducing it? And, on the other hand, if you *have* introduced (and explained) an abbreviation, then by all means *use* it.

But avoid the temptation to make up an acronym for some complex expression you wish to refer to often – it’ll be hard for the reader to remember what it means anyway. Better to explain the idea fully first, then shorten it to its core and use that shorter form – one or a few words – after that. You can put in parenthesis (hereafter *shorter form*) to make it clear that when you use the shorter form you’re referring to the whole complex idea.

Punctuation

Usually, with a series of three or more items, it is best to put a comma (or semi-colon) after each one, including a comma before the final “and”. This doesn’t seem to be Swedish practice, and it is not common practice in modern English *informal* writing either, but in *formal* writing – such as we’re talking about – it often adds to clarity.

Otherwise there may be some hesitation – in the reader's mind – over whether or not those last two items might form a unit of some kind. Such hesitation is easily prevented with a comma. Here's a counter-example: Haiti, Jamaica, Trinidad and Tobago. If I *hadn't* been using commas before the last items in previous series, the reader might assume that Trinidad and Tobago are separate countries; whereas in fact they are one country.

Two complete sentences can be joined with a semi-colon (;), or a colon (:). A semi-colon is used when the sentences are related but don't directly flow one-into-the-other (exemplified here); a colon is used when one sentence leads directly to the next: like this.

If what follows the colon (but *not* following a semi-colon) is a complete sentence, it can start with a capital. Not all authors use a capital for complete sentences after colons, but I believe it's helpful for telling the reader what to expect. This might be even more important if – as could happen – more than one sentence follows the colon.

If what follows the colon is not a sentence, but is rather a list or other example of some sort, it should definitely not start with a capital. If the list consists of complicated phrases or clauses, it's probably better to separate them with semi-colons rather than commas, including before the final "and".

Economics-writing is especially prone to strings of nouns modifying other nouns. For clarity and faster intelligibility, I tend to hyphenate them more than many writers – and of course I try to be consistent – but for simplicity I might not hyphenate in the Abstract or paper title, where one is willing to read slower anyway. It's an art, not a science. But I have two general rules: I suggest hyphenating a noun-phrase used as a compound adjective (e.g., "used-clothes exports") or a noun-phrase modified by an adjective (e.g., "marginal tax-rate"). The Oxford English Dictionary – which has dropped hyphens in ordinary phrases – still supports their use in exactly these situations (McGrath 2007). In each case, hyphenating helps to make it immediately clear to the reader that some further meaning is attached, so they don't stop – even momentarily – with "used clothes" or "marginal tax". I would not hyphenate "used clothes" or "tax rate" by themselves, although phrases like "tax rate" – where the first word is a noun being used as an adjective – are candidates for hyphenation if I think

it will help the reader grasp the meaning faster, especially with bigger words, in less-common phrases.

If you use dashes – like here, instead of (or in addition to) parentheses – use a consistent style. A published journal may use a longer dash and no spaces—like this. But in a draft it probably looks better to use a shorter dash (called an “em” dash), with spaces before and after, as above. In MS Word you can set *Tools/AutoCorrect* to automatically change two hyphens (--) into a dash as you type.

Since ratios such as cost/benefit (or benefit/cost) are mathematical relations, using the divide symbol (/) instead of a hyphen may be more intuitive.

One normally uses double quotation marks (such as “…”) to set off passages actually quoted, or to set off words being used in a special way. Single quotation marks (such as ‘…’) can also set off words being used in a special way, especially if you want to make clear that they are not quotes; but many – especially Americans – prefer to reserve single quotation marks for quotes within larger quotes.

Closing quotation marks in British English seem to be more often placed *inside* of the following punctuation – except where a whole sentence is being quoted – whereas in American English they are almost always placed *outside* the punctuation. I have adopted the more flexible rule, that quotation marks go outside only if the punctuation is part of the quote – e.g., if a quoted complete sentence ended at that point, or could be so construed without misrepresenting its meaning.

On typewriters only straight quotation marks (") were available, but with a computer you should use curved quotation marks (as in this text). In English the marks before and after – whether single or double – should be curved oppositely, so that they “face” what they surround, to enclose the quote or word being set off; thus there are “left-hand” and “right-hand” quotation marks. Using a right-hand quotation mark at the *beginning* of a word or quote, where a left-hand quotation mark should be, will look very ”odd” to most readers of English, I believe. (Swedish has a different tradition, as may other languages.)

If you have language set for English and you use *Tools/AutoCorrect/AutoFormat As You Type/Replace straight quotes with smart quotes*, then MSWord will insert correctly-curved quotation marks automatically as you type. But if language is set for

Swedish, it will give you only “right-hand” quotation marks – though, given one left-hand quotation mark, you can always do a search and replace to fix the problem.

If “smart quotes” is not turned on in *Auto Correct/AutoFormat*, you will get straight double (") or single (') quotation marks.

If using curved *quotation* marks (“…”), be sure to use curved *apostrophes* (’) as well – and vice versa. (A correctly-curved apostrophe is the same as a right-hand single quotation mark.)

For *prime* marks you can use straight apostrophes (') or accent marks (´) as used on some foreign words, but don’t use curved apostrophes.

You can refer to decades as, for example, “the 1980’s” (older style, with apostrophe) or “the 1980s” (more modern style, without the apostrophe) – but be consistent.

Equations

Economists are often criticized for glorifying mathematics. Too much space before and after equations makes them look like they’re being presented as trophies – rather than just providing more information, as does any line of text. There’s no need for lots of extra space – one extra line-space is probably sufficient – which means you can reduce to almost zero the margins inside and outside of equation-boxes (if you use them). Of course the spacing before and after all equations should be the same.

Equations should probably be centered; an alternative is to indent them all a bit (identically, of course).

Equations should be readable: A space before and after *plus*, *minus*, and *equals* signs is good, so that the *terms* of the expressions are easily distinguishable to the eye.

Use intelligible (intuitive) notation so far as possible – even write out whole words if you have room. This isn’t chemistry – with established symbols for everything – and having to learn new unintelligible notation for every paper tries the patience of the reader.

Equation numbers should be in parentheses at the margin, usually on the right side. Usually every equation gets a number, though sometimes minor equations, or conditions related to other equations, aren't numbered unless they're referred to later – which is when equation numbers are useful, and is thus their purpose.

No other punctuation – no period or comma – is required at the end of an equation line, where it might be confused with mathematical notation, and just makes your equations look more cluttered. Some journals may prefer punctuation there, though, in which case they will insert it, or instruct you to do so, if and when your paper is accepted for publication.

If you have a subsidiary comment on the same line as an equation – such as "$\forall i > 0$" – you can use space rather than a comma to set it off from the equation proper.

Your equations should be clearly and smoothly introduced by the preceding text, and their meaning should be thoroughly expressed in words afterwards. Explain what each of the terms means – preferably in the order they appear in the equation – but also make sure we know what real economic relationship this whole mathematical expression is intended to summarize.

Equations don't "depend" on this or that right-hand term – but *consumption* (or whatever) might.

Encouragement

One way to judge the quality of your paper is whether you enjoy revising it. If you *don't* enjoy making careful revisions, it's probably a sign that it's still poorly written, and needs a lot more work. Don't be afraid to try something another way: If you keep at it, the paper will only get better.

At any stage in the writing and revising process, it can be good to get a friend or colleague to read and criticize your writing, and at some point you may also want to use the services of a professional copy-editor. If you have given careful attention to the organization, writing, and formatting points above – so that your paper is easier to read and understand – then any resulting suggestions will probably be easier for you to deal with. There may be fewer of them, perhaps less complex; and yet they might also be on a higher level. The result should be a much better paper.

Conversely, if you haven't given sufficient attention to organization, writing, and formatting, your paper might be so difficult to read that your friend or colleague will be too overwhelmed to make many useful suggestions. Even a professional copy-editor might get so bogged down in the details that it would be hard for them to get an overall view of the paper. It may be hard for your advisor to read it also, making technical review difficult as well.

If – after someone has "language-corrected" your paper – you continue to revise it, and are then unsure of the correctness of spelling and grammar, you can always have it reviewed again. (If I am reviewing, I may then make some further suggestions on organization, writing, and formatting, both because I will understand the paper better the second time, and because it will be easier to see where further improvements can be made, once many initial "problems" have been cleared up.[16])

Similarly, even if the text has been through "final technical review", I strongly suggest that you continue revising it if you see ways to make improvements, in order to make the paper as good as reasonably possible. It's always better to improve it, even if some spelling or grammatical errors creep in. A journal's copy-editor can always fix those before the paper is published.

Of course – if the paper has already been accepted for publication when you work on it, you should inform the journal if you make any substantive changes.

If a journal copy-editor then makes changes in your text, be sure to review them carefully. Compare the texts side-by-side to see what they've changed – or use the Compare Documents function of your word-processor. If what they've done is not right – or you don't like it – tell them so. After all, it's your paper.

[16] As noted, my rates, as well as my CV and a memo describing how I work, are available upon request. The GU Economics Dept. is often willing to pay for copy-editing of students' and researchers' papers.

References Cited in this Stylebook [17]

Austin, Paul Britten (1970), The Swedes: How They Live and Work, Praeger.

Bak, Per (1997), How Nature Works: The Science of Self-Organized Criticality, Oxford University Press.

Becker, Howard S. (1986), Writing for Social Scientists: How to Start and Finish your Thesis, Book, or Article, University of Chicago Press.

Brians, Paul, *Common Errors in English*, www.wsu.edu/~brians/errors/.

Hargevik, Christina, and Stieg Hargevik (1998), Make No Mistakes: Engelska Skrivregler (English Writing-rules), Almqvist & Wiksell. [Thanks to Deirdre McCloskey for finding this book for me in a local bookstore.]

Harris, Marvin, and Orna Johnson (2003), Cultural Anthropology, 6th ed., Allyn & Bacon.

Hoover, Kevin D., and Mark V. Siegler (2008), "Sound and Fury: McCloskey and significance testing in economics", Journal of Economic Methodology **15**:1:1-37.

Little, I.M.D. (1950-1973), A Critique of Welfare Economics, 2nd ed., Oxford University Press.

Lynch, Jack, *Guide to Grammar and Style,* andromeda.rutgers.edu/~jlynch/Writing/index.html.

McCloskey, Deirdre (1983), "The Rhetoric of Economics", Journal of Economic Literature **31**:2:481-517.

McCloskey, Deirdre (1985a), The Rhetoric of Economics, University of Wisconsin Press.

McCloskey, Deirdre (1985b), "The Loss Function Has Been Mislaid: The rhetoric of significance tests", *American Economic Review* **77**:2(May):201-5.

McCloskey, Deirdre (1987), The Writing of Economics, Macmillan; republished (2000) as Economical Writing, Waveland Press.

McCloskey, Deirdre (1990), If You're So Smart: The Narrative of Economic Expertise, University of Chicago Press.

McCloskey, Deirdre (2002), The Secret Sins of Economics, Prickly Paradigm Press; also available at http://www.prickly-paradigm.com/paradigm4.pdf.

McCloskey, Deirdre, and Stephen T. Ziliak (1996) "The Standard Error of Regressions", *Journal of Economic Literature* **34**:1(March):97-114

McGrath, Charles (2007), "Death-Knell. Or Death Knell.", New York Times, October 7, http://www.nytimes.com/2007/10/07/weekinreview/07mcgrath.html?emc=eta1

Rasmusen, Eric, *Aphorisms on Writing, Speaking, and Listening*, www.rasmusen.org/GI/reader/writing.pdf.

[17] Another resource is the searchable online *American Heritage Book of English Usage* (www.bartleby.com/64/) which includes *Strunk's Style* and *Fowler's King's English*, as well as *American English and Modern Usage*.

Ross-Larson, Bruce (1982), Edit Yourself: A Manual for Everyone who Works with Words, W.W. Norton.

Solow, Robert (1997), "How Did Economics Get That Way and What Way Did It Get?", Dædalus, Journal of the American Academy of Arts and Sciences **126**:1(Winter):39-58.

Streeten, Paul (2004), "What's Wrong with Contemporary Economics?", mimeo, emailed April 2004, also available online (various sites).

Thompson, William (2001), A Guide for the Young Economist: Writing and Speaking Effectively about Economics, MIT Press.

Tufte, Edward R. (1983), The Visual Display of Quantitative Information, Graphics Press.

Varian, Hal R. (2001), "What I've Learned about Writing Economics", Journal of Economic Methodology **8**:1:131-4.

Wonnacott, Thomas H., and Wonnacott, Ronald J. (1990), Introductory Statistics for Business and Economics, 4th ed., John Wiley & Sons.