Writing As a Product of Economic Analysis

"Planning to write is not writing. Outlining...researching...talking to people about what you're doing, none of that is writing. Writing is writing."  
E.L. Doctorow

In Chapter 4, we explained how the writing process could be used as a tool for developing one's argument. In this chapter we discuss the use of writing as a product of the intellectual process.

Writing as a product is different in several ways from writing as a process. Writing as a process is a tool the author uses to determine what he or she thinks about a question. As such, issues like format, style, and grammar are largely irrelevant, since you are writing to yourself. Writing as a product is the report of that inquiry. Thus, the audience is someone other than the author. We observed earlier that scholarly writing embodies an argument that attempts to persuade experts in the field. Thus, the writing needs to be more explicit and formal. This means that everything needs to be spelled out clearly and in sufficient detail to get your point across. Additionally, you must follow proper standards of punctuation and grammar.

What Is Economic Writing?

Students often tell me that they don’t know how to write an economics paper, or that they don’t know what makes a paper economic in character. Alston (1996) identifies at least four different types of writing done by economists: Research Articles, Essays, Research Papers, and Theses. Economic articles, monographs, and scholarly books are included in this study. 

Research Articles: These are the most common type of economic writing and are typically published in academic journals. They usually contain a clear statement of the problem, a review of the existing literature, a presentation of new data or methodology, and an analysis of the results. 

Essays: These are typically shorter than research articles and are usually written for non-academic audiences. They may include personal reflections on economic issues, policy recommendations, or critiques of existing research. 

Research Papers: These are typically written for academic conferences or workshops and are shorter than research articles. They may include preliminary results or a summary of ongoing research. 

Theses: These are typically written as part of a graduate degree and are a comprehensive analysis of a specific economic issue. They may include original research and a thorough review of the existing literature. 

In addition to these types of writing, economists may also write for policy makers, business leaders, or the general public. These types of writing may include economic forecasts, policy recommendations, or commentary on current events.
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op-ed pieces and books for educated lay audiences); Policy Analyses (including technical reviews of legislative or regulatory proposals and other government reports); and Business Analyses (forecasts, market analyses, cost analyses, and similar analyses).

Though many features of writing are common across all disciplines, certain aspects are discipline-specific. Petr (1998, 229–230) points out that “Good academic writing...requires a unique blend of vocabulary, concepts, method, precedent and history, typifying that discipline and reflecting its thought-patterns (its metaphors, if you will).” Good disciplinary writing requires more than the ability to cut and paste phrases together from the vocabulary of the field. What is required is a higher order of cognition: understanding the appropriate disciplinary context for those phrases. Bean (1999) observes that each discipline has certain types of questions and has its own way of analyzing them. Each discipline uses its own types of arguments, proofs, and empirical evidence.1

What fundamentally distinguishes economic from other disciplinary writing and what all types of economic writing share is the use of economic analysis. We introduced this concept in Chapter 2 when we discussed what makes for a research question in economics. In other words, all economic writing applies economic theory to derive insights about and explain answers to a question or problem. The types of arguments and empirical evidence economists use will be explored in Chapters 7, 10, and 11.

Writing Steps

Writing experts have identified four steps necessary to complete a finished paper:

1. Pre-writing or Exploration
2. Writing the First Draft
3. Revising
4. Editing

The first step was the subject of the last chapter. The last three will be the subject of this one. Though we describe this process as four steps, writing, like research more generally, isn’t usually a linear process. Instead, it’s iterative; many writers loop through the steps more than once. Thus, you can expect to read about many of the same issues in the later sections “Revising” that you did in the following section, “Writing the First Draft.”

Writing the First Draft

One of the hardest steps in completing a paper is writing the first draft. Even professional writers find this to be the case. How do you start? You can prepare for the first draft by writing throughout the research process: taking notes as you research your topic, writing critiques, drafting your own ideas (Booth et al., 1995, 140).

The first draft really begins in the pre-writing or exploration stage. It is at this stage that the writer identifies and develops the argument to be made in the paper. This is done, as we described in Chapter 4, by reviewing and attempting to organize your research materials.

Before you start writing, there is one key question you need to address: who is the audience for your paper? We noted at the beginning of that chapter that one significant difference between writing as a process and writing as a product is the audience. We also noted that this is not a trivial question since a research paper really has two audiences: the scholarly community for your topic, and the instructor and classmates who are likely to read your paper. It is a good idea to ask your instructor who your audience should be. I encourage my students to write for economics majors who are at the same level as they are. In any case, this question is not one you ignore. As McCluskey (2006) observes, if you fail to identify your audience, your paper will almost certainly miss the target.

Nature of Good Economic Writing

Once you have your argument sketched out, you are ready to write. What are you aiming for? What does a well-written paper look like?

Good economic writing has several features. These are illustrated in order of importance in Figure 5.1. First, good writing should be focused, not bogey. Early in your paper, you should make clear to the reader exactly what it is about. You can do this by inserting a thesis sentence that identifies the principal assertion of the paper. Experts differ on what constitutes a thesis sentence that should take. Wrycik (1994) suggests, “The purpose
of this paper is . . . " McCloskey (2000) considers this poor style. Perhaps it is, but any advice to writers is to first communicate clearly, then worry about style. If you need to use Wyrrick’s construction to get your point across, that’s fine. As you become a more experienced writer, you’ll be able to get beyond this.

Figure 5.1: Features of Good Economic Writing

1. Good writing should be focused, not fuzzy;
2. Good writing should be organized;
3. Good writing should be clearly developed.
4. Good writing should be clear, concise, and precise;
5. Good writing should be free of grammatical errors.

Figure 5.2: Examples of Focus

in the postcolonial period, several new African nation-states experienced with economic development ideologies. Tanzania began to formally establish regional hegemony in the postcolonial period, under the auspices of the socialist world, immediately after independence in 1964. The Anjuha Declaration of 1987 formalized the era's ideological orientation toward "utopia," the collective (state-owned and centrally controlled) ownership of state-granted monopolies (Bajaj, 1990). This declaration, however, politically and economically desirable, did little to increase the productive capacity of the country. With a quickly degrading infrastructure, nationalistic development policy, high levels of regional political and investment risk, numerous investment complications and capital flight, Tanzania’s socialist legacy has left a mixed record. By the mid-1990s, a reformist government embarked on an economic development program, reforms for the world’s less developed countries (LDCs) (Bajaj, 1990).

Growing concerns over the increasing juvenile crime rate have sparked extensive research into the socioeconomic and psychological factors that lead young adults to engage in illegal behavior. Over the past forty years, the number of juvenile court cases handled has more than doubled. The rise in destructive acts among youths is evident in school dropout rates, teenage pregnancies, drug abuse, and quite apparently, in the substantial increase in juvenile crimes committed. Over the past several years, attempts have been made to link this growing propensity toward crime with the breakdown of the American family. According to a 1988 survey by the National Center for Health Statistics, children in single-parent families, many of whom are products of divorce, are two to three times as likely to have emotional or behavioral problems as children in two-parent families. This paper is an attempt to solidify the correlation between divorce and juvenile crime.

To determine the organization for your paper, you should ask several questions: What are the major points that you want to make that logically lead to your conclusion (i.e., that prove your thesis)? These points will be the principal pieces of evidence to support your argument. What is the best order for these points in the paper? Are there any weak or misplaced links in the logic? If so, fix them. Are there any superseded points or points that don’t lead to the conclusion? If so, omit them.

These guidelines for an argument are true regardless of its length. A short essay of one hundred words, the thesis is likely to be either at the

Writing the First Draft
other words, the same hierarchical structure that organizes the overall paper should also be present at the micro level. Each section of a paper should have its major point stated in a single sentence. The remainder of the section should explain the reasoning for that major point. This is illustrated in Figure 5.3, where each major point is supported by several minor points.

The remaining two features of good economic writing will be explained in the later sections of this chapter on revising and editing your paper since they are not critical for writing the first draft.

**Getting the Ideas Down on Paper**

When you start writing your draft, don’t worry about grammar or mechanics; don’t worry about getting the details right or fixing mistakes; fact, concerning yourself with those is a good way to get bogged down. Rather, focus on just getting your basic ideas down on paper. Indeed, it’s best to do this in one sitting (or for a longer paper, one complete section at a time). McCloskey (2000) suggests that if you can’t draft the paper in a single setting, it is helpful to write yourself notes about what you have done and where you are going next, before you end your work session.

The idea is to prevent yourself from running into “writer’s block.” All writers experience this at some point, but if you can put this off until the revising stage you will be ahead of the game. (See Figure 5.4 for some practical suggestions for getting over writer’s block.)

Many writers find it useful to create an outline of what they are trying to say. This is not a formal topic-based outline with roman numerals like you were taught in high school. Rather, Booth et al. (1995) argue that point-based outlines, which are organized as a series of points or assertions, tend to be more useful since they illustrate your argument. Note also that this step overlaps somewhat with the earlier one about developing your argument.

Sometimes it makes sense to develop the outline after you’ve written an initial draft of your ideas. For example, I usually find it easier to brainstorm about the first draft, writing down my ideas, and only then creating an outline to organize them. Writing is a personal process. There is no one right way to do it! We noted in Chapter 4 that the outline function of your word processing software is a helpful way to proceed regardless of the outline format you choose.

Booth et al. (1995) identify several poor schemes for organizing a paper, which you should avoid. The first is repeating the assignment: providing exactly and only what is asked for in the assignment, and in the order it was asked for. The second is merely summarizing your sources. Remember, a good paper should analyze rather than just report what others have said on a topic. The third is explaining the steps in the process that you went through to write it. A research paper should explain what you found, not what you did.

**Giving Credit for Intellectual Property**

All writers know to avoid plagiarism. What may not be clear is exactly what plagiarism is. Plagiarism is taking credit for someone else’s words or ideas, even when it’s unintentional. It is a form of academic dishonesty. There are two types of plagiarism. The first is using someone else’s words as if they were your own. That is, it means directly repeating words from another’s work without including quotation marks. This occurs if someone copies directly from another’s work or if he or she submits a portion of a complete paper they obtained from the Internet or from some other supplier. Plagiarism can also occur if you don’t keep careful records as you put together your research materials and mistake a quotation as your own paraphrase. This is plagiarism even if you reference the original source.
find out from your instructor what style he or she wishes you to use, and then follow that carefully.

Revising the Paper

No one, not even a Nobel laureate, can write a perfect paper on the first try. Every first draft can be improved by revision. In fact, Booth et al. (1995, 171) observe that

Perhaps the biggest difference between experienced writers and beginners is their attitude towards the first draft. The experienced writer takes it as a challenge: I have the sketch, now comes the hard but gratifying work of discovering what I can make of it. The beginner takes it as a triumph: Done! I’ll change that word, fix this comma, run the spell-checker, and <Print>! A first draft is indeed a victory, but resist that easy way out.

We commonly make a distinction between a first draft and the final draft. In practice, good writers go through more than two versions of their papers, usually many more. Each major draft may be the result of several revisions or minor drafts. For example, consider the first rough draft you write versus the more polished “first draft” you’re willing to have a friend read. This is analogous to the way software releases are named: WordPerfect 5 versus WordPerfect 6 are considered major revisions, while WordPerfect 6.1 versus WordPerfect 6.2 are minor revisions. In the same way, it makes sense to differentiate between major drafts of your paper, on the one hand, and revisions or versions of a major draft, on the other.

As students of economics, we should understand that the marginal benefit of revision is positive, but diminishing. The second major draft is usually much better than the first. The third major draft is even better than the second, though the improvement may not be as great. If you only write one draft, you forgo those substantial improvements. One of the most disappointing comments I write on students’ final papers is “This would make an excellent first draft.” In other words, it has great potential but that potential was not realized. Of course, to attain this potential you need to start writing far enough before your deadline to have the time for multiple revisions. You know this! But here is something you may not have thought seriously about: Your instructor gives you a month to complete a writing assignment, not because she wants you to wait three weeks to start, but because a month is how long it takes to do the assignment well, by writing multiple drafts and revisions. Would you intentionally show up late to an examination and so leave half the questions unanswered because you ran out of time? Of course not, but that is effectively what you do when you wait until the last minute to begin writing the paper. Think about it.
Is the Thesis Clear?

The purpose of revision is to craft your paper so it better embodies the features of good writing listed in Figure 5.1, in order of importance. Start with focus. If the paper has no focus, then the remaining issues are irrelevant. Is the thesis or principal assertion of the paper clear? Can you underline the thesis sentence in the paper's introduction? If not, the most important thing you can do to improve the paper is fix that. Can you underline the corresponding sentence in the paper's conclusion? If not, the reader may find that your paper lacks closure, that it did not do what it set out to. Booth et al. (1995) point out that these two thesis sentences should match each other, or at least not contradict one another. If the first is framed in terms of a question, then the second should answer the question. If they do not match or if the second does not answer the question posed in the first, they need to be reworded. For example, the thesis expressed in a paper's introduction could be:

This study will attempt to determine the major factors that influence the retail demand for diamond jewelry.

The corresponding sentence in the paper's conclusion could be:

This paper has found that the demand for diamond jewelry is highly sensitive to the price, but highly insensitive to income.

Note that it is not unusual for authors to have to make this kind of revision, since when they drafted the introduction they may not have known exactly how the paper would end up. But it's important to make sure the introductory and concluding thesis statements match by the time the paper is completed.

Is the Paper Well Organized?

The next step is to review your paper's organization, which is another way to think about the paper's argument. Whether you are revising a relatively short paper, no more than a few pages in length, or a longer paper, the principles are the same. One way to check your paper's organization is to create a paragraph outline. A paragraph should be the explanation of a single thought or idea or theme. Each paragraph should have a thesis sentence, typically the first sentence. If a given paragraph discusses two or more themes, you should split it into two or more paragraphs. Identify the thesis sentence of each paragraph, and copy each one into a new document in the order in which they occur. Now read the sentences and check to see if they make sense in that order and lead logically to the thesis conclusion. If they do not, then re-organize the order of the sentences until they do. If any sentence does not seem to contribute to the argument, omit it. When your paragraph outline makes sense, then reorganize your paper to match the paragraph outline.

Let's try this with an example. Suppose we develop the following paragraph outline from a draft of a paper:

1. HIV/AIDS infection reduces people's ability to work when they become ill.
2. The deaths caused by HIV/AIDS reduce a nation's human capital, since not only is the labor force reduced, but the investments in those workers' human capital are also lost.
3. Immigration has been increasing into many developing nations that have high rates of HIV/AIDS.
4. A nation's labor supply depends on its birthrate, immigration rate, labor force participation rate, health expenditures, life expectancy, and investments in education.
5. The rate of HIV/AIDS infections tends to reduce labor supply.
6. The HIV/AIDS illness requires that resources be used to treat HIV/AIDS patients that could otherwise be used for disease prevention.

The principal assertion of this paper is sentence 5. How might we reorganize the sentences to support this thesis? Though there may be more than one way to do this, the following is one organizational scheme that works:

1. The rate of HIV/AIDS infections tends to reduce labor supply.
   [Thesis sentence]
2. A nation's labor supply depends on its birthrate, immigration rate, labor force participation rate, health expenditures, life expectancy, and investments in education.
   [Since labor supply is the key issue, what affects labor supply?]
3. HIV/AIDS infection reduces people's ability to work when they become ill.
   [Reducing labor force participation]
4. The illness requires that resources be used to treat HIV/AIDS patients that could otherwise be used for disease prevention.
   [Reducing the labor force participation of workers who get other diseases]
5. The deaths caused by HIV/AIDS reduce a nation's human capital, since not only is the labor force reduced, but the investments in those workers' human capital are also lost.
   [Therefore,] the rate of HIV/AIDS infections tends to reduce labor supply.
   [Restatement of the thesis as a conclusion].
Note that sentence 3 in the original outline did not lead to the theme and so was omitted.

Are Your Points Supported with Evidence?

The third step is to examine the development of each major point in your paper. Each point is itself an assertion that needs to be supported with evidence. If the first sentence in a paragraph spells out the main point of that paragraph, the remaining sentences should flesh out and support that main point. Does the main point need to be explained in more detail? Can you provide examples of what the main point says? What makes you think that the main point is valid? What evidence can you provide to bring the reader to that conclusion? Any sentences that do not contribute to this task should be omitted or moved to another paragraph where they are appropriate.

Take the second sentence in the revised paragraph outline as an example:

A nation's labor supply depends on its birthrate, immigration rate, labor force participation rate, health expenditures, life expectancy, and investments in education.

This could be fleshed out as follows:

Labor supply depends on population, which is a function of the birthrate, the immigration rate, and the death rate. The labor supply also depends on the percentage of the population that is working. This labor force participation rate depends on cultural factors, as well as expenditures on health, which help people avoid illness. Health expenditures also affect life expectancy, which influences the death rate. Though these factors determine the number of workers, the effective labor supply depends additionally on the amount of education that workers receive.

We need to address one last topic before we move on to discuss issues of style. Writer's block is a problem that affects all writers at some point. Figure 5.4 lists some practical tips for overcoming it, once you have a first draft to revise.

Writing Style

Once your paper has a well-defined focus and organizational structure, you can address the remaining features of good writing: clarity, conciseness, and precision. This is where you polish your argument to make it as persuasive as possible. A good writing style enables your reader to comprehend your writing without having to work at it.

![Figure 5.4: Practical Tips for Overcoming Writer's Block](image)

1. Copy the section of your paper where you find yourself stuck onto a separate standalone document. Edit that document, in any way that makes sense, even by radically revising it. The fact that it's a different document from the source will free you to consider radical revisions. Revise the paper until it's completely to your satisfaction. Then paste it back into the source paper, replacing the original section.

2. Print your paper (double-spaced), and review it. Changing the format from computer screen to paper helps to make ideas for improvements leap out at you.

3. Put the paper aside for a few days or a week. Let your subconscious work on it. Almost always, when you come back to it you will be able to proceed effectively.

4. Construct a paragraph outline for the paper. Summarize each paragraph using a thesis sentence. Revise the list of thesis sentences as necessary, either by adding to them or splitting them into separate ideas. Review your revised list of thesis sentences for order, redundancy, missing links, and dead ends. Use what you've learned to revise the original.

Strive for Clarity

The most important feature of good writing style is clarity. Imagine listening to a radio station that you can't quite tune in. As McCuen et al. (1993, 2) note, "You listen intensively for a short while, but you keep missing words; you can't quite understand [what the announcer is trying to say]." Unclear writing is exactly like that.

To write clearly, you should follow a few simple rules. A sentence consists of a subject and a verb. Compose each sentence so the subject is the main actor of the story, and the verb is the main action. In addition, whenever possible choose strong verbs over weak ones. You might think this should be obvious, but for some it is not. Here is an example from a research paper:

"Noticeably different is the negative coefficient of CPI."

Note how much clearer the sentence reads when the subject, Noticeably different, and the object, negative coefficient of the CPI, are reversed:

"The negative coefficient of CPI is noticeably different."
This improvement results because the main actor in the sentence is the "negative coefficient," but originally it was shunted to the end of the sentence. This sentence also employs a weak verb: is. Novice writers tend to overuse to be, which generally only lengthens a sentence without adding anything. Verbs like to be tend to convey less information than stronger verbs. Suppose we replaced is with the stronger verb differs:

"The negative coefficient of CPI differs noticeably."

Subject: "negative coefficient"
Verb: "differs"
How?: "noticeably"

Most readers would find this version much clearer than the original. Scholarly writing has a reputation for being difficult to understand. Though it is true that scholarly writing makes use of specialized vocabulary and specialized forms of argument and evidence, it should not and need not follow the turgid academic style we see too often in scholarly work. This style has many labels, none of them complimentary. McCloskey (2000) describes it as the author posing as "The Scientist" or "The Scholar." Lanham (1992) calls it "the Official Style." Harvey (2000) describes this style as employing "obfuscation, nominalization, passive voice, [and] long, wordy passages which muddy up the question of who did what."

Consider, for example, this passage from a research paper:

"Even though the numbers show sustained growth the opinions of many scholars are still conflicting."

What does this mean? I don't know. Researchers write this way for several reasons. First, they think they are supposed to. They think it sounds more formal or scientific than plain prose. They think it makes them appear more knowledgeable about the subject. This is especially true of novice researchers.

Second, they may be trying to express complex ideas that they do not fully understand. McCloskey (2000) labels this the "This-Stuff-Is-So-Complicated-I-Can't-Make-It-Clear" approach to writing. The solution to this problem is straightforward, though not necessarily easy. You must think through these ideas until you understand them well enough to explain them clearly. You may need to do more research to see how other authors have explained these ideas. You may also need to discuss the ideas with colleagues or your instructor. In short, the solution is to put more work into the project.

Third, as Harvey (2000) points out, researchers may be trying to avoid taking responsibility for what they write. Writing is risky, as we note in the previous section. It is possible to say what you mean more accurately and precisely than in a sentence like "Even though the numbers show sustained growth the opinions of many scholars are still conflicting."

Chapter 4. Writers worry that what they say might be wrong. If they write in a vague, incomprehensible style using words and phrases that they have seen in scholarly writing (e.g., rational expectations, first-order conditions, statistical significance), then the reader won't be able to criticize what he or she doesn't understand. This is like the student who, unsure how to spell a word, hedges his or her bets by spelling it several ways in an essay. In fact, the only thing that is certain is that the student will spell the word wrong. Writing without clarity is going to be criticized not for what it says, but because it says nothing. Indeed, Harvey (2000) observes that "Without clarity, you're not really communicating, just going through the motions."

Do not waste your efforts trying to write this way. If you focus on clarity, conciseness, and precision, your style will take care of itself.

Use the Active Voice

Academic writers often use the passive voice. Booth et al. (1995) suggest that they do this because they think it makes their writing sound more objective. The passive voice occurs when writers make the subject the recipient rather than the performer of the action (Harvey, 2002). Usually, this is done by replacing an active verb with a form of the verb to be. Consider the following examples:

"Next, the data were analyzed."
"It is expected that price will increase with disposable personal income."
"It is argued that . . . ."

The solution is to rephrase the sentences using an active voice, where the subject performs the action:

"I analyzed the data."
"We expect that price will increase with disposable personal income."
"We argue that . . . ."

Notice that the active voice is more precise in meaning. With the passive voice, the reader needs to figure out who is analyzing the data, who is expecting the price to increase, who is arguing. To write more precisely you must refine your thinking. For example, why do you expect that prices will increase? A likely reason is because economic theory predicts it. If so, you should explicitly say that, something our author did not. Consider the second example: who or what is arguing that . . . ? Is it the researcher? Is it the results of the analysis? Again, by thinking about subjects and verbs as you refine your thinking, you also refine your writing.
NOTES FOR NOVICE RESEARCHERS

Using the First Person

Researchers are often reluctant to use the first person in their writing. Frequently, the result is that they use the passive voice. In fact, there is nothing wrong with using the first person, especially when you are describing your interpretations and conclusions. If you can make your writing clearer by using the first person, then do so.

Passive voice is not incorrect per se, but by disguising the subject of the sentence, it makes the reader work harder to figure out what exactly you are saying. For this reason, until you become a skilled writer you should probably avoid the passive voice.

Describe Action with a Verb

Academic writers also tend to nominalize, that is, turn verbs into nouns. Again, their motivation seems to be to make the writing sound more scholarly. In fact, it merely makes it sound more pretentious and harder to read.

Here are some examples:

"There was a failure of the results to confirm the hypothesis."

"The growth of an economy is somewhat fluctuated due to the amount of technological increase."

"Next, the data were subjected to analysis."

Nominalization tends to add words to a sentence without adding meaningful. Thus, the sentence is harder rather than easier to read. Additionally, like the passive voice, nominalization obscures the subject of the sentence.

The solution to nominalization is to describe the action with a verb.

"The results failed to confirm the hypothesis."

"The growth of an economy fluctuates due to the amount of technological increase."

"Next I analyzed the data."

In sum, to write clearly choose strong verbs to describe the actions in your sentences, and make the main actors the subjects of your sentences.

Be Precise and Concise

Most of our discussion of style has focused on clarity, which is its most important feature of style. Now, let's discuss precision and conciseness.

Discussing complex issues often requires nuance. Thoughtful writers understand that word choice matters and that synonyms have slightly different meanings. If you want readers to understand you, choose the word that means exactly what you wish to say. Precision, like clarity, suggests to the reader that you know what you are talking about. Vagueness conveys the opposite impression.

Consider the following sentence:

"Some areas that enforce affirmative action are helping those who are at a disadvantage to overcome discrimination."

Think about this sentence. It begins with a vague subject: Some areas. One cannot easily tell whether this refers to areas of law, areas of culture, or geographic areas. The verb in the sentence (are helping) is weak. The next phrase (those who are at a disadvantage) doesn't really add any information for the reader. Compare the original with this revised version:

"The states that enforce affirmative action help individuals overcome discrimination."

Another characteristic of good writing style is conciseness. Try to make every point as concisely as you can. Avoid empty words that don't add information for the reader. Never say more than you need to.

Occam's razor is a well-known corollary to the scientific method. It proposes that when choosing among alternative theories, one should select the theory that explains the phenomenon being studied with the least complexity. The same rule is true for writing. Less is more as long as the explanation is complete.

In the real world, a supervisor will never ask you to write a report of at least twenty pages. Time is a scarce resource and people prefer brevity, so long as they still get the point. The same is true of academic readers.

Don't worry about the length of your paper. Never add "filler." If you go through the writing process described here, you will have enough to say to satisfy your assignment. Of course, this assumes that you have thought through your topic carefully and completely during the drafting and revision steps. If you haven't, filler won't help.

If you want your writing to be persuasive you should avoid emotion-laden phrases. Good writing is hard work. If you don't take your writing seriously, why should the reader?

Writing Mechanics

The last step in completing a paper is editing. Now is the time to worry about correcting grammar, mechanics, as well as spelling and typographical errors.
Use Complete Sentences

Serious writers employ complete sentences. A complete sentence implies a complete thought, while a sentence fragment implies fragment or incomplete thought. As we noted previously, a complete sentence consists of a subject and a verb. A sentence fragment is a subject without a verb or a verb without a subject. Few of us would write “An economist” or “Testing the hypothesis” by themselves. Yet sentence fragments are common among novice writers.

Often novice writers will use a phrase as a sentence, when grammatically it is not. Take the following, for example:

“The key question for determining whether you have statistically significant results.”

In this phrase, The key question is a noun, and for determining sounds like a verb, but grammatically it isn’t. Compare the phrase with this sentence:

“The key question for determining whether you have statistically significant results is does your estimated t-statistic exceed your critical t.”

You can see that the original phrase, even though it has a noun and a verblike word, serves only as the subject of the full sentence. Since the original phrase includes a subject but no verb, it is not a complete sentence.

Alternatively, a phrase may include both a noun and a verb, but they are subordinated by another word: “Although the estimated coefficients were negative.” In this phrase, the estimated coefficients is a noun, and were negative is a verb. The phrase the estimated-coefficients were negative is therefore a complete sentence, but by preceding them with Although you create a dependent clause, which is not a complete sentence because it needs additional words to complete its meaning. Compare the original with the following sentence:

Although the estimated coefficients were negative, they were not statistically different from zero.

You should be able to see that the dependent clause was an incomplete thought, and thus an incomplete sentence.

The last type of sentence fragment occurs when a phrase has both a noun and a verb, but the verb isn’t properly conjugated for the noun. A software package generating statistical results.” A software package serves as a noun, and generating serves as a verb, but the entire phrase isn’t a complete sentence. To determine whether you have a complete sentence, you must determine whether the phrase standing alone is a complete thought. If not, you need to fix it.

Don’t Let Sentences Run On

A run-on sentence is two or more independent clauses that are not separated with the proper punctuation. In a run-on sentence several complete thoughts are jammed together, making it difficult for the reader to determine where one ends and the next begins:

“An increase in the price of seed caused an increase in the price of corn; an increase in the price of corn caused a decrease in the quantity demanded.”

A run-on can be fixed in several ways. The two clauses could be connected with a semicolon:

“An increase in the price of seed caused an increase in the price of corn; an increase in the price of corn caused a decrease in the quantity demanded.”

They could also be connected by a conjunction such as and:

“An increase in the price of seed caused an increase in the price of corn, and an increase in the price of corn caused a decrease in the quantity demanded.”

Alternatively, the two clauses can be divided into two complete sentences:

“An increase in the price of seed caused an increase in the price of corn. An increase in the price of corn caused a decrease in the quantity demanded.”

Given the widespread availability of spell-checking software, there is no excuse for misspelled words in a paper. McCloskey (2000, 27) points out that spelling errors and typos make you “look like a careless dol.” At best, readers will think you are careless. At worst, they will question your entire paper. Note, however, that the spell-checking software is not sufficient to catch all typos. For example, it will not find missing words. For that you need to review the document closely. Also, it is a good idea to have someone else read the final document. A friend is more likely to catch errors than you are, since you are (too) familiar with your writing. It is true that content is more important than mechanics in a paper. But practice, failure to write well, that is, failure to use proper style and mechanics, inhibits your ability to communicate. This is not mere grammar or rhetoric and argumentation, the art of using words to persuade. If you can’t communicate, you can’t persuade the reader that your argument is correct.
SUMMARY

- Economic writing is writing that applies economic analysis to derive insights about an issue or problem.
- Writing a first draft is hard, even for experts. The key is to sit down, organize your research materials, and do it.
- Well-written papers are focused, clearly organized, fully explained, polished, precise, and concise. Additionally, they are free of grammatical and typographic errors.
- Plagiarism means taking credit, even unintentionally, for the words and ideas of others.
- No one can write a perfect paper in one draft. Good writers write many drafts, revising and revising again, until they get it right.

NOTES

1. Note that the humanities, since they are non-science disciplines, do not use empirical evidence.

SUGGESTIONS FOR FURTHER READING

Booth et al. (1995)—Chapters 11–15 explain virtually every aspect of writing a college-level research paper, from pre-writing to revising for organization and style.

Harvey (2000)—Excellent guide to writing that is very readable, even enjoyable. Harvey includes numerous excellent examples.


McCuen et al. (1993)—Excellent guide to technical writing and speaking for engineers and other scientists.

Thomson (2001)—Useful guide for young Ph.D.s or others who are writing about theoretical economics. Quite technical, but other researchers may find it of value as well.

EXERCISES

1. Find an example of “social criticism” written by an economist (e.g., Milton Friedman, Paul Krugman, Robert Heilbroner). Find an example of a research report written by the same author. In what ways are the two types of writing similar? In what ways are they different?

Using the sources you have discovered so far on your research topic, draft a survey of the literature of no more than two pages in length. The focus of your survey should be to summarize the consensus in the literature on your research topic. Briefly summarize the major studies that have contributed to this consensus. Be sure that your survey illustrates the first three features of good economic writing: focus, organization, and solid development of the main points in the survey.

Write a clear thesis for your research paper. The thesis may well be a tentative one at this point.

1. Find a paper you have written for another class. Underline the thesis of the paper. Is the thesis clear? If not, revise it to make it clearer. Construct a paragraph outline of the paper. Evaluate the outline. Is the outline organized in the best way to lead logically to the thesis as a conclusion? If not, reorganize the outline. Are there any points that are extraneous? If so, delete them. Are all the major points in the paper explained fully and clearly? If not, correct them.

Print a copy of the literature survey you wrote for Exercise 2, or another short paper. Circle every usage of the passive voice with red ink. Rewrite each using active voice. Compare the passive version with the active one. Next circle every nominalization with blue ink. Rewrite each using a verb to describe the actions. Print a copy of the revised paper and compare it to the original. Which do you think is clearer? Why?