Notes on Writing, Talking, and Listening

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Abstract

These are notes on the mechanics of doing research in economics. They are a series of short, unconnected tips that I think could be widely useful both to individuals and the profession.

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1. INTRODUCTION

This is the latest version of a set of notes I have been giving my doctoral students for the past ten years or so. I have organized them as follows:

1. Introduction.
2. Writing.
3. Speaking.
4. Listening
5. Latex input and output.
6. References

I also plan to put an HTML version of this up on the Web at some point.

You will see that the tone of these notes is informal but dogmatic. The most important idea in communication is that the author should make things clear to the reader and save him unnecessary work. Bluntness often aids clarity, and I will assume throughout that the reader knows the following things are true:

1. Benefits are to be weighed against costs. It is okay for a paper to be somewhat unclear if the alternative is too costly, just as it is sometimes okay to use dirty paper and a printer almost out of ink. The 26 June 1996 version of these notes is still in list form, with minimal organization, because the opportunity cost of a careful revision would be more delay on my agency law paper and even the unorganized list will be useful to a student I am seeing at an oral exam this afternoon.

2. I am still learning how to write. I have never looked over a paper I have written without finding ways to improve it, even though I am accounted a good writer and I do many drafts. Do not be surprised when you look over my published papers and find violations of my own rules.

3. It is okay to violate any rule if you have a good reason, including rules of grammar and spelling. Just be sure you do it deliberately and not by accident. If you know you write poorly, keep that in mind, however. An economist who has drunk an entire bottle of whisky, being rational, refrains from breaking the law and driving home at 90 miles per hour even if he feels perfectly capable of driving.

Care in writing is important. Besides helping the reader, clear writing fosters clear thinking. If you have to write an abstract, decide which results to call propositions, and label all your tables and diagrams, you will be forced to think about what your paper is all about. So do not regard your writing revision as just a bit of fringe to decorate your great idea!

2. WRITING[1]

1. To overcome writer's block, put together an outline of the points you want to make, in any order. Then, order them. Start writing without worrying about style, and later revise heavily or start over. Starting twice today is better than waiting three months and starting once. It is better, *a fortiori*, than waiting forever.

2. Xerox your paper before you give it to anyone, or, better still, retain two copies on disk, in separate locations (for fear of fire).

3. Number each page of text, so the reader can comment on particular pages. Number each equation in drafts on which you want comments. If you have appropriate software, label each line.

4. The title page should always have (1) the date, (2) your address, (3) your phone number, and (4) your e-mail address. You might as well put your fax number down too.

5. A paper over five pages long should include a half-page summary of its main point. Depending on your audience, call this an abstract or an executive summary. In general, write your paper so that someone can decide within three minutes whether he wants to read it.Usually, you do not get the benefit of the doubt.

6. It is often useful to divide the paper into short sections using boldface headings, especially if you have trouble making the structure clear to the reader.

7. Technical papers should present their results as Propositions (theinteresting results, stated in words), Corollaries (subsidiary ideas or special cases which flow directly from the propositions), Lemmas (points which need to be proved to prove the propositions, but usually have no instrinsic interest) and Proofs. Lemmas and Proofs can be purely mathematical, but Propositions and Corollaries should be intelligible to someone who flips directly to them when he picks up the paper.That means they must be intelligible to someone who does not know the paper's notation. A reader must be able to decide whether the paper is worth reading just by reading the propositions.

8. It is best to present the model in as short a space as possible, before pausing to explain the assumptions. That way, the experienced reader can grasp what the model is all about, and all readers can flip back and find the notation all in one place. It is okay, and even desirable, however, to separate the model and the analysis of the equilibrium.

9. Do not introduce new facts in your concluding section. Instead, (a) summarize your findings, or (b) suggest future research.

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10. Even a working paper should have a list of references, and these should be at the very end, after the appendices and diagrams, so the reader can flip to them easily. Law reviews do not publish lists of references, but you should have one anyway for the working paper version, including separately a list of cases and statutes cited, with, if you want to be especially helpful, a phrase of explanation. Example: *United States v. O'Brien*, 391 U.S. 367 (1968) (upholding the conviction of a draft card burner).

11. Be content if your paper has one contribution to make. That is one more than most published articles. If you include too many points, the reader may not be able to locate the best one. Beware of listing too many results as propositions. Three propositions to an article is plenty; a paper with ten propositions clearly has nothing to say. But don't follow the example of the author who had eight propositions and eight theorems so he could avoid double-digit numbering!

12. Please don't shoot the reader; he's doing his best. The reader, like the customer, is always right. That is not to be taken literally, but it is true in the sense that if the reader has trouble, the writer should pay attention to why, and not immediately blame the reader. Copyeditors are a different matter. Especially at law reviews and scholarly journals, they are often pedantic young college grads who rely on rules and ignore clarity. (In my experience, book copyeditors are much better.)

13. In dealing with journals, remember that the editor, and even the referee, is usually much smarter than you are. They often get things wrong, but that is because they are in a hurry or feel obligated to give objective reasons for rejecting a paper when the real reason is that it is trivial or boring. If a referee has given some thought to the paper, he is probably correct when he suggests changes. Suggesting changes is a sign that he has indeed given some thought to it; referees who have just skimmed the paper usually do not suggest any changes.

14. Reading your paper out loud is the best way to catch awkward phrasing and typos. Have someone else proofread the final version for you.

15. It is very useful to set aside a paper for a week or a month before going back to revise it.

16. Serious papers require many drafts (five to twenty-five). Coursework does not, but you should be aware of the difference from professional academic standards.

17. Look at published papers to get a guide for the accepted formats for academic papers.

18. Scholarly references to ideas can be in parenthetic form, like (Rasmusen [1988]), instead of in footnotes.[2] Footnotes are suitable for tangential comments, citation of specific facts (e.g., the ratio of inventories to final sales is 2.6), or explanations

[2]Like this: Rasmusen, Eric (1988) "Stock Banks and Mutual Banks." *Journal of Law and Economics.* October 1988, 31: 395-422.

of technical terms (e.g., Dutch auction).[3] Notes should be footnotes, not endnotes.[4] Every statistic, fact, and quotation that is not common knowledge should be somehow referenced. In deciding whether something is common knowledge, ask, "Would any reader be skeptical of this, and would he know immediately where to look to check it?" Economists are sloppy in this respect, so do not take existing practice as a model.

19. References to books should usually be specific about which part of the book is relevant. Give the chapter or page number.[5] Note that I give 1776 as the year of Smith's work, rather than 1952, as the back of the title page of my edition says. The year could tell the reader one of two things: 1. the year the idea was published, or 2. what edition you looked at when you wrote the paper. Usually (1) is much more interesting, but you should also have (2) in the references at the end of the paper, so the page numbers are meaningful.

20. Long quotations should be indented and single-spaced.

21. Think about your mathematical notation. Use r for the interest rates, p for price, and so forth. Avoid using the same letter in both upper and lower case, because this wreaks havoc with oral presentations (e.g., Y for output and y for the log of output). Macroeconomists commonly use a symbol for the logarithm of a variable, but I find this irritating, since it weakens intuition considerably. I would rather see $Y = M/P$ than $Y = M - P$, where Y is the logarithm of output, M is the logarithm of the money supply, and P is the logarithm of the price.

22. Circle, box, boldface, or underline the important entries in tables. Often you will wish to present the reader with a table of 100 numbers and then focus on 2 of them. Help the reader find those two.

[3] Like this tangential comment. Inventory ratio: 2.62 for 1992-III, *Economic Report of the President, 1993*, Washington: USGPO, 1993. In a Dutch auction, the price begins at a high level and descends gradually until some buyer agrees to buy.

[4] If this were an endnote, I am sure you would not read it.

[5] Example: "Adam Smith suggests that sales taxes were preferred to income taxes for administrative convenience (Smith [1776], p. 383)." Or, "(Smith [1776], 5-2-4)." If you really wish to cite the entire book, then that is okay too. Example: "Smith (1776) combined many existing ideas."

Table 2
Arrest Rates per 100,000 Population

	Under 18	18-20	21-24	25-29	30-34	35-39	40-44	45-49	50+	All ages
1961	1,586	8,183	8,167	6,859	6,473	6,321	5,921	5,384	2,594	3,877
1966	2,485	8,614	7,425	6,057	5,689	5,413	5,161	4,850	2,298	3,908
1971	3,609	11,979	9,664	6,980	6,016	5,759	5,271	4,546	2,011	4,717
1976	3,930	13,057	10,446	7,180	5,656	5,205	4,621	3,824	1,515	4,804
1981	3,631	15,069	11,949	8,663	6,163	5,006	4,176	3,380	1,253	5,033
1985	3,335	15,049	13,054	9,847	7,181	5,313	4,103	3,155	1,088	5,113

Note: Over 50% of arrests are for "public order" offenses (e.g. drunk driving, prostitution), especially for older people. The underlined entries are mentioned in the text.

Source: BJS (1988c), pp. 26-27.

23. Don't go charging off at full speed immediately, or you'll confuse the sidelines with the goal lines. Looking where you're running saves time in the end, and prevents head injuries.

24. Give useful titles to every table and every diagram. Do not say "Table 3"; say "Table 3: Growth in Output Relative to Government Expenditure".

25. In diagrams, use words to label the axes, not just symbols. Say: "X, the education level," not just "X".

26. Students generally do not take their papers seriously, which is defeatist, though perhaps realistic. MBA and PhD students, if not undergraduates, eventually will be trying to write important reports or articles, and they ought to start practicing. In writing a paper, think about whether anyone else would want to read it. Reasons people read a paper are:

    (1) They can cite it in their own papers, or in argument, because it pins down a certain fact or logical connection.

    (2) It is better written than other papers on the same subject, even though it contains nothing new.

    (3) It contains an important idea that readers want to understand.

    Most of you should not count on reason (3), since it requires that the reader already believes that the paper contains an important idea. That is why people read Stiglitz's papers, but not why they read most papers. Reason (1) is more important. Even a student can write something citable, and however trivial the cite, that is a useful contribution to the world. A badly written summary of someone else's work, on the other hand, or an original variant on an existing model, may be completely useless.

Especially, do not scorn the small fact. The small fact is the foundation of science, and since it is the kind of contribution anyone can make, experts are less likely to throw away a paper by an unknown who modestly purports to establish a small fact.

27. A common vice of theorists is to say things like: "The price is high (low) if the quantity is low (high)" . How quickly can you understand that statement compared to "The price is high if the quantity is low. The price is low, on the other hand, if the quantity is high." Writing for people is different from writing for computers. Redundancy helps real live people read faster. That is why I didn't write "Rdnncy hlps pple rd fstr", even though if the reader would only use some effort my condensed sentence is clear, unambiguous, and much shorter.

28. Do not say "The supra-national government authority (SNGA) will..." and then use SNGA throughout your paper. Say

    "The supra-national government authority ("the Authority") will..." The use of acronyms is a horrible vice akin to requiring the reader to learn a foreign language just to read one insignificant paper. If the term is so long that it looks awkward to use it throughout the paper, the problem is in the term, not the number of letters used to represent it. This can be useful to the author: when he finds his writing is awkward, that is often a sign that his thinking is muddy.

29. In empirical work, normalize your variables so the coefficeints are easy to read. For example, data like (.89, .72, .12) can be converted to percentages: (89, 72, 12). Data like income can be convereted from (12000, 14000, 78100) to (12, 14, 78.1), making th units "thousands of dollars per year" instead of "dollars per year", and making the coefficient on that variable .54 instead of .0054. Use z-scores (variable minus its mean divided by standard deviation) for unnatural numbers.

30. A list of some useful references is in a later section. Start with McCloskey's article (later made into a book) and the little book by Strunk & White, both of which are pleasures to read.

31. Email and the Net are increasingly important. Plain-text ASCII— the letters you type in from the regular typewrite keys— is the only universally readable type of files. Don't expect people to tussle with Wordperfect, Postscript, or other specialized formats; just because everybody at Podunk University uses Wordperfect doesn't mean everybody in the world does. Most people should rather have something readable, even if it loses all the equations, tables, and figures, than something which would be beautiful if they could read it, but they can't. (Admittedly, some foolish people, and a majority of business students, are exceptions: they are happier with nothing than with something messy. Only give those people hardcopy of final drafts.) Transmitting non-ASCII files by email can be done, with various coding programs, but do not expect it to work the first time with any given person. The same goes for posting on the Net. Everyone can read ASCII, and HTML is written in ASCII so everybody can read HTML too, even if they do not have a Web browser. One approach is to post

both an ASCII version and a Postscript or other special version, so that everybody can read something and some people read everything in your paper.

3. SPEAKING[6]

1. Presentations have three purposes, Peter Temin told me as a student at MIT: (1) to tell something to the audience, (2) to get comments from the audience, and (3) to impress the audience. Purpose (3) is perfectly appropriate to a job talk, but it tends to conflict with purposes (1) and (2).

2. Invite questions along the way. If people have to wait until the end they will be reluctant to raise questions that were relevant earlier, and disagreements will take the form of long speeches instead of short questions. Asking for questions is also a good way to show you have reached the end of a section of your talk.

3. In your notes, mark certain paragraphs or sections to be dropped if you run out of time. Do not run late unless you sense that your talk is extraordinarily interesting to the people who matter in the audience. Running late stimulates much more hostility than saying stupid things during your talk. Ending early is usually quite acceptable.

4. Answering questions fully is usually more important than reaching the end of your talk. If you rush the talk, few people will understand the last part anyway.

5. Use the blackboard or a transparency to outline your talk before you start. Do not write this on the board before you start. Instead, write a short outline as you are concluding the introduction. Example:
   1. Intro
   2. The bargaining problem.
   3. Nash solution.
   4. Many periods.
   5. Incomplete info.

   Then check off sections as you finish them.

6. Handouts are useful for tables, figures, equations, notation, technical definitions, abstracts, and statements of propositions. The length should be one to three pages, no more. Unless your audience has the entire paper, you should distribute at least a one page handout. This is particularly important in a Chicago-style seminar, since you may not get to your main point, and it must be on the handout for the audience to learn it. Handouts are also useful as doodling paper.

7. If your paper is technical, write up the notation on a handout or put it on the board and do not erase it. This is crucial, unless you have a handout with the notation.

8. If your paper is technical, you should keep in mind that your propositions are probably much more important than your proofs. Usually, the audience is completely uninterested in the proofs.

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9. Put extra handouts near the door, so that latecomers can pick them up as they come in.

10. Label all axes on diagrams you draw on the board.

11. If you are using electrical equipment such an overhead projector, test it before the talk starts. If you are talking as a guest of someone else, be sure and tell them well in advance if you need a room with a screen.

12. Remember that people blank out frequently when listening. This means the speaker ought to occasionally summarize what he has done, and structure his talk so that if a listener misses any thirty seconds he can catch up again later.

13. Sympathize with your audience. Put yourself in their place.

14. If the host asks if you have any closing remarks, that usually means you should have finished five minutes ago. He does not really want closing remarks; he wants you to stop. Your reply should be either (1) "No, I do not have any closing remarks. Thank you," or (2) Three sentences summarizing the main results; or (3) a closing joke.

15. Write down all calculations in your notes. At the board it is hard to remember even that 7(19) = 133. If you perform a series of, say, ten arithmetic operations, a mistake is likely, and finding it can take as long as the first try at all ten operations.

16. Towards the end, say things like "My final result is..." to give hope to your fading audience and stimulate them to a final effort to stay awake. Then, do not disappoint them.

17. Do not be embarassed to defer a question, but make a note on the board (the questioner's name or the topic) to come back to it, and tell the questioner to remind you later if you forget.

18. Students generally are very bad at delivering papers. Even though seminars often run an hour and a half, students are well-advised to schedule talks for only an hour. More people will attend, and often the comments received in the first hour make the last third of the paper irrelevant anyway.

19. Very few people can carry off a two-hour seminar successfully.

20. Much of this advice is directed to speakers with boring topics and poor delivery. That is because most seminars are given by speakers with boring topics and poor delivery.

21. Do not rely on suspense, or delay announcing your main results until the end. After an hour, people usually stop listening anyway, and if your idea is worth spending time on, it is complex enough that people will need to hear the idea at the beginning to understand it by the end.

4. LISTENING[7]

This is a list of tips on listening to scholarly presentations.

1. Write down the notation.

2. Do not be afraid to ask the first question. In fact, try to ask it, so that the ice will be broken. Ask it even if it isn't such a good question. Hold back only if you are a guest at an unfamiliar workshop, where boring, questionless, presentations may be the social custom.

3. Discussion is usually the main point of a seminar. Without questions, reading the paper almost always dominates listening to an oral presentation. If questions are not asked along the way, then (a) the audience gets confused, (b) the speaker gets away with incorrect or controversial assertions, (c) it is hard to make small comments of the kind useful to the speaker, and (d) when questions are asked, at the end, they tend to be irrelevant, and turn into general, solipsistic, speeches. In the humanities, this is what usually happens.

4. Write notes on the seminar paper (literally) so you will not lose them later, and to make filing easier.

5. During the seminar, write down comments to give the speaker afterwards. This is especially useful if (a) your question would be too distracting because it is off the current topic, (b) too many other questions are being asked for you to get a chance to ask your question, or (c) the custom is not to ask questions, and you are bursting with frustration. Speakers are very appreciative about written comments, and you have nothing better to do.

6. In my opinion, doodling is perfectly appropriate, and a good use of your time. Knitting, whittling, etc. will be seen as eccentric, but they are efficient activities.

7. It is often customary to let the speaker know beforehand if you must leave early. This can be presumptuous. I've sometimes thought to myself, "Why should I care if this person leaves early? He's not important enough for me to feel insulted even if I knew his motive was boredom." If you think the speaker has special concern for your opinions, though, you should certainly let him know if you must leave early.

8. Ignore spelling errors the speaker makes at the blackboard, but instantly point out mathematical typos. You need not raise your hand for this kind of commment.

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9. If you realize that other people are confused and do not understand something, ask their question for them.

10. Keep your questions as short as you can. Sometimes people feel obligated to state their question three times, to show what an important question it is. ("Could inflation be the cause? It seems like inflation might be the cause. So do you think inflation might be the cause? Inflation does seem important.") Resist this.

11. It is quite proper to point out that the speaker did not answer your question. In academic discussions, this is usually because the speaker did not understand your question. If he is being purposely evasive, fry him. This does not usually happen in academic seminars.

12. I try to remember to bring a *Statistical Abstract* or *Economic Report of the President* to seminars. Often a fact will be helpful.

13. If you have a laser pointer, bring it along. You can use it to ask questions, pointing to the overhead or blackboard tables and equations.

14. Pace yourself. If you are too tired, you will get nothing out of sitting through a seminar. Don't bother to go, unless politeness demands it. Sleep or do mechanical work instead. At conferences, the problem is usually not sleepiness, but burnout. Plan to skip some good sessions and rest.

5.1. LATEX INPUT[8]

What follows is Latex input followed by output. I give it here as examples of common Latex commands that I use, and my tricks of formatting.

```
               \titlepage
\vspace*{-96pt}
                    \vspace*{12pt}

                    \begin{center}
           \begin{large}
    {\bf This is an Example of a Title Page }\footnote{Copyright,
Eric Rasmusen.  I will grant a non-exclusive license to any journal
that publishes this.  } \\
             \end{large}


                March 9, 1996 \\

                   \bigskip
                   Eric Rasmusen \\
                   \vspace*{ 1in}
                   {\it Abstract} \\
 \end{center}
     When a symbol is desecrated, the desecrator obtains benefits
while those who venerate the symbol incur costs.  The approach to
policy used in this paper is to ask whether the benefits are likely
to exceed the costs.  I conclude that they usually do not.
Desecration is often motivated by a desire to reduce the utility of
others, which generally is inefficient.  Also, if desecration occurs,
people have less incentive to create and maintain symbols.  Symbols,
like other produced goods, need property-rights protection if the
outcome is to be efficient.  Laws against desecration are a good way
to provide this protection, given the likely failure of the Coase
Theorem and the possibility of efficient breaking of the laws.


          \vspace{ 24pt} \begin{footnotesize}
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  \end{footnotesize}
\vspace {24pt}

 I would like to thank seminar participants at the Columbia Political
Economy workshop for their comments.

  I would also like to thank participants in the Econlaw discussion
list for their comments in the on-line discussion of this issue in
1995 that stimulated this paper.\footnote{xxx Footnotes that, like
this one, start with xxx are notes to myself for future revisions.}



 \newpage

%-----------------------------------------------------


\begin{center}
 {INTRODUCTION}
 \end{center}
          ... Section 2 will set up the basic cost-benefit
calculation, in its
simplest form, and introduce the idea of 'mental externalities'.
Section 3 will discuss the special feature of what I will call
'malice'': intentional rather than accidental negative externalities.
Section 4 concerns a special feature of desecration: that it is the
harming of created symbols. As a result, it has implications for the
quantity of symbols created. ... Section 9 addresses a
number of objections to the earlier arguments: the question of
rights, metapreferences for toleration of desecration, and positive
externalities from desecration.  Section 10 concludes.



   % ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
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```
  \begin{center}
 {\bf A Legal citation}
 \end{center}

  \vspace*{-12pt}

 Two tests relative to desecration are the O'Brien and the Clark
tests.  The O'Brien test is
   \begin{quotation}
 \begin{small}
   ``[A] government regulation is sufficiently justified if it is
within the constitutional power of the Government; if it furthers an
important or substantial governmental interest; if the governmental
interest is unrelated to the suppression of free expression; and if
the incidental restriction on alleged First Amendment freedoms is no
greater than is essential to the furtherance of that interest.''
({\it United States v. O'Brien}, 391 U.S. 367, 377 (1968),
 upholding the conviction of a draft card burner)
 \end{small}
 \end{quotation}


\noindent
 { Assumptions}

          We impose the following six assumptions on costs and
demand:
 \begin{itemize}
  \item[(A1)]
  $C(q,x)$ is continuously differentiable on ${\bf
R}^2_+$.
  \item[(A2)]
   $C_q(q,x) > 0 $ for $q >0$ and $x \geq 0$; $C_x(q,x) \leq 0 $ for
all $(q,x) \in {\bf R}^2_+$ and $C_x(q,x) < 0 $ for all $(q,x) \in
(0,K] \times [0,K]$, where $K$ is defined in (A5).
   \item[(A3)]
  For any $ q > 0 $ and $x \geq 0 , C(q,x) > 0 $; Also, $C(0,0) > 0
$.
   \item[(A4)]
  $P$ is continuous and strictly decreasing; $P(Q)\rightarrow 0 $ as
$Q\rightarrow +\infty$; $P(Q)$ is integrable on any closed interval
of $ {\bf R}_+ $.
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```
 \item[(A5)]
  [Eventual Strong Decreasing Returns] There exists $K > 0 $ such
that the following holds: if either $q_1 > K$ or $ q_2 > K$ (or
both), then there exist $\alpha$ and $\beta \in [0,1]$ such that
          $$
  \Gamma(q_1,q_2) > \Gamma(\alpha q_1,\beta q_2) + \Gamma((1-\alpha
)q_1,(1-\beta) q_2).
   $$
\item[(A6)]
  $P(0) > p_m $.

 \end{itemize}

 \baselineskip 24pt



Assumption (A1) guarantees the continuity of the marginal
cost and marginal benefit functions.


Assumption (A2) says that the marginal cost is always positive, that
greater experience never increases the total cost, and that greater
experience strictly reduces the total cost of producing output in any
period.


Assumption (A3) says that a firm with no experience incurs a fixed
cost of production, a cost which must be incurred even if output is
zero.


 \baselineskip 12pt



\begin{center}
 {\bf   A Diagram}
 \end{center}
\vspace*{-12pt}
```

The total production cost is nonincreasing in the amount of accumulated experience. Figure 1 shows one cost function that satisfies the assumptions--- the cost function which will be used in Example 2 later in the article. Note the increasing marginal costs for any level of learning, and the decreasing returns to learning for any level of output.

```
\epsfysize=4in

\epsffile{Learn1.eps}

\vspace*{-36pt}
      \begin{center} {\bf Figure 1: A Firm’s Total Cost as a Function
of Output and Experience} \end{center}
```



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\newpage
\begin{Large}

PROPOSITION 4.  {\it Under assumptions (A1)-(A7), the following is
true in equilibrium:
   \begin{itemize}
\item[ (a)]
   Each of the staying firms behaves identically.
   \item[ (b)] If there is a positive measure of exiting firms, they
produce at the zero-experience minimum efficient scale, which is less
than the output produced by staying firms in period 1.
   \item[ (c)]
There exist no late-entering firms. \footnote{The proof of
Proposition 4 is available in Petrakis, Rasmusen \& Roy (1994), from
Erasmuse@indiana.edu, or from
http://www.indiana.edu/$\sim$busecon/lrning.prf.  }
         \end{itemize}
}%end of italics

\end{Large}
```

When the American Law Institute began to compile the influential summaries of the common law known as the ‘‘restatements,’’ the

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Restatement of Agency was important enough to be second in the series
(after contracts).  The {\it Restatement } defines agency as ‘‘the
fiduciary relation which results from the manifestation of consent by
one person to another that the other shall act on his behalf and
subject to his control, and consent by the other so to
act.’’\footnote{ American Law Institute, {\it Restatement of the Law,
Second: Agency 2d}, St. Paul, Minnesota: American Law Institute,
1958, \S 1. All references are to this second restatement, hereafter
called the {\it Restatement}.   }

 Let us begin with the care to check authority, in Illustration 6.
  \begin{small}\begin{quotation}
     {\it Illustration 6: Not Checking Authority Carefully.} ‘‘P
tells T that A is authorized to buy sheep for him when the market
price of wool in another country has reached a certain point.  T
sells sheep to A, relying upon A’s untruthful statement that the
price of wool has reached the specified point.’’\footnote{{\it
Restatement}, \S 168. } Is $P$ bound by the contract?

    \end{quotation}  \end{small}




 %-----------------------------%-------------------------------------
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   A simple regression of illegitimacy on AFDC and a constant yields
the following relationship:
     \begin{equation} \label{e100}
  \begin{array}{lll }
  Illegitimacy &= 26.91  &{\bf -0.034* AFDC},  \\
    &  (3.05) & {\bf (0.026)  }

      \end{array}
 \end{equation}
  (standard errors in parentheses) with $R^2=.03$.  Equation
(\ref{e100}) implies that high AFDC payments reduce the illegitimacy
rate, but this is, of course,
  misleading because the simple regression leaves out important
variables. Regression (\ref{e101}) more appropriately controls for a
variety of things which might affect the illegitimacy rate:
```

```
 \begin{equation} \label{e101}
  \begin{array}{lll ll}
  Illegitimacy &= 15.74 &+ {\bf 0.016* AFDC} & -0.00011* Income
&+0.024* Urbanization \\
  &  (3.65) & {\bf (0.021)} & (0.00042) & (0.033)\\
   & &&&\\
    & - 1.60* South & + 0.56*Black, & &\\
     & (1.71) & (0.06) & &\\
   \end{array}
 \end{equation}
  with $R^2=0.79$. Equation (\ref{e101}) would leave us with the
conclusion that AFDC payments have almost no effect on the
illegitimacy rate. Nor, surprisingly, do any of the other variables
except race have large or significant coefficients.




\newpage
 \vspace*{-1in}

 \begin{center}
{ A  Data Table}
 \end{center}
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 \begin{tabular}{|l|lll lll r|}
 \hline
  \hline
  State & Illegitimacy & AFDC & Income & Urban- & Black & Dukakis
&Unexplained Illeg.\\
   & & & & ization & & vote & (from (23)) \\
   & (\%) & (\$/month) & (\$/year) & (\%) & (\%) & (\%) & (\%)\\
  \hline
     Maine & 19.8 & 125 & 12,955 & 36.1 & 0.3
    &      44.7    &       2.8      \\

    New Hampshire & 14.7 & 140 & 17,049 & 56.3 & 0.6
    &      37.6    &       2.3      \\

    Vermont & 18.0 & 159 & 12,941 & 23.2 & 0.4 & 48.9
    &       -4.9      \\
```

```
    Massachusetts & 20.9 & 187 & 17,456 &
   90.6 & 4.8 & 53.2 & -6.2 \\
   Rhode Island & 21.8 & 156 & 14,636 & 92.6 & 3.8 &
   55.6 & -5.2 \\
Connecticut & 23.5 & 166 & \framebox{19,096 }
   & 92.6 & 8.2 & 48.0 & 2.3 \\
    \hline

   New York & 29.7 & 166 & 16,036 & 91.2 & 16.1 &
   51.6    &       -3.8      \\

  New Jersey & 23.5 & 119 & 18,615
   & \framebox{100} & 14.4 & 43.8 & 6.2 \\
   Pennsylvania & 25.3 & 111 & 14,072 & 84.8 & 9.4 &
   50.7    &       3.4      \\

    \hline
            Ohio & 24.9 & 102 & 13,326 &
   78.9 & 11.0 & 45.0 & 2.6 \\
   Indiana & 22.0 & 84 & 12,834 & 68.1 & 8.4 & 40.2
   & 4.9 \\
 Illinois & 28.1 & 101 & 15,150 & 82.5
   & 16.1 & 49.3 & 6.7 \\
   Michigan & 20.4 & 156 & 14,094 & 79.9 & 14.6 &
   46.4    &      \framebox{-14.0 }        \\
    Wisconsin & 20.7 & 160 & 13,296 & 66.5 & 4.8 & 51.4 & -8.5 \\
    \hline
   Minnesota & 17.1 & 171 & 14,037 & 66.6 & 1.6 &
   52.9 & \framebox{-11.0 } \\
       Iowa    &      16.2    &      124    &      12,475    &

   43.4 & 1.9 & 54.7 & -3.5 \\
   Missouri & 23.7 & 87 & 13,340 & 66.0 & 10.8 &
   48.2 & 5.9 \\ North Dakota & 13.9 & 125 & 11,388
   & 38.4 & 0.5 & 44.0 & -7.2 \\
 South Dakota & 19.4 & 94 & 11,611 & 29.1 & 0.3 &
   47.2 & 6.2 \\
      Nebraska & 16.8 & 108 & 12,773 &
   47.6 & 3.4 & 39.8 & -0.2 \\
   Kansas & 17.2 & 110 & 13,235 & 53.4 & 5.8 & 44.2
   &       -1.2      \\
```

```
    \hline
           Delaware & 27.7 & 99 & 14,654 & 65.9
   &      18.9    &      44.1    &       2.1      \\

   Maryland & 31.5 & 115 & 16,397 & 92.9 & 26.1 &
   48.9 & -0.4 \\
  DC & \framebox{59.7 } & 124 & 17,464 &
  \framebox{100} & \framebox{68.6} & \framebox{82.6} & 0.5 \\
   Virginia & 22.8 & 97 & 15,050 & 72.2 & 19.0 &
   40.3 & -2.1 \\
  West Virginia & 21.1 & 80 & 10,306
   & 36.5 & 2.9 & 52.2 & 2.1 \\
   North Carolina & 24.9 & 92 & 12,259 & 55.4 & 22.1
   & 42.0 & -6.0 \\
   South Carolina & 29.0 & 66 & 11,102 & 60.5 & 30.1
   & 38.5 & -5.0 \\
   Georgia & 28.0 & 83 & 12,886 & 64.8 & 26.9 & 40.2
   & -3.5 \\ Florida & 27.5 & 84 & 14,338 & 90.8
   & 14.2 & 39.1 & 5.0 \\
    \hline

   Kentucky & 20.7 & 72 & 11,081 & 46.1 & 7.5 &
   44.5 & 1.4 \\
  Tennessee & 26.3 & 54 & 12,212 &
   67.1 & 16.3 & 42.1 & 5.7 \\
   Alabama & 26.8 & \framebox{39} & 11,040 & 67.5 & 25.6 &
   40.8 & 0.5 \\
 Mississippi & 35.1 & \framebox{39} & \framebox{9612}
   & 30.5 & 35.6 & 40.1 & 2.4 \\
    \hline
   Arkansas & 24.6 & 63 & 10,670 & 39.7 & 15.9 &
   43.6 & 1.3 \\
 Louisiana & 31.9 & 55 & 10,890 &
   69.2 & 30.6 & 45.7 & -1.4 \\
   Oklahoma & 20.7 & 96 & 10,875 & 58.8 & 6.8 &
   42.1 & -4.8 \\ Texas & 19.0 & 56 & 12,777 &
   81.3 & 11.9 & 44.0 & 0.9 \\
    \hline
   Montana & 19.4 & 120 & 11,264 & 24.2 & \framebox{0.2} &
   47.9 & 0.5 \\
Idaho & 13.0 & 95 & 11,190 &
   \framebox{20.0} & 0.4 & 37.9 & -0.6 \\
   Wyoming & 15.8 & 117 & 11,667 & 29.2 & 0.8 &
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    39.5 & -2.3 \\
    Colorado & 18.9 & 109 & 14,110
    & 81.7 & 3.9 & 46.9 & 1.3 \\
    New Mexico & 29.6 & 82 & 10,752 & 48.9 & 1.7 &
    48.1 & \framebox{14.0} \\
 Arizona & 27.2 & 92 & 13,017 &
    76.4 & 2.7 & 40.0 & \framebox{12.0} \\
    Utah & \framebox{11.1} & 116 & 10,564 & 77.4 & 0.7 &
\framebox{33.8}
    & \framebox{-14.0} \\ Nevada & 16.4 & 86 & 14,799 & 82.6
    & 6.9 & 41.1 & 3.2 \\
     \hline
    Washington & 20.8 & 157 & 14,508 & 81.6 & 2.4 &
    50.0 & -4.8 \\
 Oregon & 22.4 & 123 & 12,776 &
    67.7 & 1.6 & 51.3 & 1.5 \\
    California & 27.2 & 191 & 16,035 & 95.7 & 8.2 &
    48.9 & -6.8 \\
 Alaska & 22.0 & \framebox{226} & 16,357 &
    41.7 & 3.4 & 40.4 & \framebox{-10.0} \\
    Hawaii & 21.3 & 134 & 14,374 & 76.3 & 1.8 & 54.3
    & 1.1 \\
              \hline
   United States & 24.5 & 124 & 14107 & 77.1 & 12.4 & 46.6 & 0\\
     \hline
      \hline
  \multicolumn{8}{c}{ }\\
   \multicolumn{8}{c}{ }\\
    \multicolumn{8}{c}{\bf Table 4: The Data and the Regression
Residuals}\\
 \multicolumn{8}{c}{(Extreme values are boxed. Sources and
definitions are in footnotes 23 and 25.)}\\
       \end{tabular}

       \end{tiny}

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 \begin{center}
{\bf   References}
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\begin{center}

{\bf Cases and Statutes }

\end{center}

Keeble v. Hickeringill, 11 East 574, 103 Eng. Rep. 1127 (Queen’s Bench, 1707) (competing schools)

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{\it Ex parte Starr}, 263 F. 145 (D. Mont.1920) (10 years hard labor for insulting a flag)

{\it State v. Peacock}, 138 Me. 339 (1942). (desecration within a home)

10 U. S. C. @ 772 (f) (actors can wear military uniforms if they do not discredit the military)

Section 42.09 of the Texas Penal Code (1989) (flag desecration)

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5.2 LATEX OUTPUT

This is an Example of a Title Page [9]

March 9, 1996

Eric Rasmusen

Abstract

When a symbol is desecrated, the desecrator obtains benefits while those who venerate the symbol incur costs. The approach to policy used in this paper is to ask whether the benefits are likely to exceed the costs. I conclude that they usually do not. Desecration is often motivated by a desire to reduce the utility of others, which generally is inefficient. Also, if desecration occurs, people have less incentive to create and maintain symbols. Symbols, like other produced goods, need property-rights protection if the outcome is to be efficient. Laws against desecration are a good way to provide this protection, given the likely failure of the Coase Theorem and the possibility of efficient breaking of the laws.

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I would like to thank seminar participants at the Columbia Political Economy workshop for their comments.

I would also like to thank participants in the Econlaw discussion list for their comments in the on-line discussion of this issue in 1995 that stimulated this paper.[10]

[9]

[10] xxx Footnotes that, like this one, start with xxx are notes to myself for future revisions.

INTRODUCTION

... Section 2 will set up the basic cost-benefit calculation, in its simplest form, and introduce the idea of 'mental externalities'. Section 3 will discuss the special feature of what I will call 'malice": intentional rather than accidental negative externalities. Section 4 concerns a special feature of desecration: that it is the harming of created symbols. As a result, it has implications for the quantity of symbols created. ... Section 9 addresses a number of objections to the earlier arguments: the question of rights, metapreferences for toleration of desecration, and positive externalities from desecration. Section 10 concludes.

A Legal citation

Two tests relative to desecration are the O'Brien and the Clark tests. The O'Brien test is

> "[A] government regulation is sufficiently justified if it is within the constitutional power of the Government; if it furthers an important or substantial governmental interest; if the governmental interest is unrelated to the suppression of free expression; and if the incidental restriction on alleged First Amendment freedoms is no greater than is essential to the furtherance of that interest." (*United States v. O'Brien*, 391 U.S. 367, 377 (1968), upholding the conviction of a draft card burner)

Assumptions

We impose the following six assumptions on costs and demand:

(A1) $C(q,x)$ is continuously differentiable on $\mathbf{R}^2_+$.

(A2) $C_q(q,x) > 0$ for $q > 0$ and $x \geq 0$; $C_x(q,x) \leq 0$ for all $(q,x) \in \mathbf{R}^2_+$ and $C_x(q,x) < 0$ for all $(q,x) \in (0,K] \times [0,K]$, where K is defined in (A5).

(A3) For any $q > 0$ and $x \geq 0, C(q,x) > 0$; Also, $C(0,0) > 0$.

(A4) P is continuous and strictly decreasing; $P(Q) \to 0$ as $Q \to +\infty$; $P(Q)$ is integrable on any closed interval of $\mathbf{R}_+$.

(A5) [Eventual Strong Decreasing Returns] There exists $K > 0$ such that the following holds: if either $q_1 > K$ or $q_2 > K$ (or both), then there exist α and $\beta \in [0,1]$ such that

$$\Gamma(q_1,q_2) > \Gamma(\alpha q_1, \beta q_2) + \Gamma((1-\alpha)q_1, (1-\beta)q_2).$$

(A6) $P(0) > p_m$.

Assumption (A1) guarantees the continuity of the marginal cost and marginal benefit functions.

Assumption (A2) says that the marginal cost is always positive, that greater experience never increases the total cost, and that greater experience strictly reduces the total cost of producing output in any period.

Assumption (A3) says that a firm with no experience incurs a fixed cost of production, a cost which must be incurred even if output is zero.

A Diagram

The total production cost is nonincreasing in the amount of accumulated experience. Figure 1 shows one cost function that satisfies the assumptions— the cost function which will be used in Example 2 later in the article. Note the increasing marginal costs for any level of learning, and the decreasing returns to learning for any level of output.

Figure 1: A Firm's Total Cost as a Function of Output and Experience

PROPOSITION 4. *Under assumptions (A1)-(A7), the following is true in equilibrium:*

(a) Each of the staying firms behaves identically.

(b) If there is a positive measure of exiting firms, they produce at the zero-experience minimum efficient scale, which is less than the output produced by staying firms in period 1.

(c) There exist no late-entering firms. [11]

When the American Law Institute began to compile the influential summaries of the common law known as the "restatements," the Restatement of Agency was important enough to be second in the series (after contracts). The *Restatement* defines agency as "the fiduciary relation which results from the manifestation of consent by one person to another that the other shall act on his behalf and subject to his control, and consent by the other so to act."[12]

Let us begin with the care to check authority, in Illustration 6.

> *Illustration 6: Not Checking Authority Carefully.* "P tells T that A is authorized to buy sheep for him when the market price of wool in another country has reached a certain point. T sells sheep to A, relying upon A's untruthful statement that the price of wool has reached the specified point."[13] Is P bound by the contract?

—-

A simple regression of illegitimacy on AFDC and a constant yields the following relationship:

$$\begin{array}{lll} Illegitimacy & = 26.91 & \mathbf{-0.034 * AFDC}, \\ & (3.05) & (\mathbf{0.026}) \end{array} \tag{1}$$

(standard errors in parentheses) with $R^2 = .03$. Equation (1) implies that high AFDC payments reduce the illegitimacy rate, but this is, of course, misleading because the simple regression leaves out important variables. Regression (2) more appropriately controls for a

[11] The proof of Proposition 4 is available in Petrakis, Rasmusen & Roy (1994), from Erasmuse@indiana.edu, or from http://www.indiana.edu/~busecon/lrning.prf.

[12] American Law Institute, *Restatement of the Law, Second: Agency 2d*, St. Paul, Minnesota: American Law Institute, 1958, §1. All references are to this second restatement, hereafter called the *Restatement*.

[13] *Restatement*, §168.

variety of things which might affect the illegitimacy rate:

$$\begin{array}{llllll} Illegitimacy & = 15.74 & +\mathbf{0.016} * \mathbf{AFDC} & -0.00011 * Income & +0.024 * Urbanization \\ & (3.65) & (\mathbf{0.021}) & (0.00042) & (0.033) \\ & -1.60 * South & +0.56 * Black, & & \\ & (1.71) & (0.06) & & \end{array} \tag{2}$$

with $R^2 = 0.79$. Equation (2) would leave us with the conclusion that AFDC payments have almost no effect on the illegitimacy rate. Nor, surprisingly, do any of the other variables except race have large or significant coefficients.

A Data Table

State	Illegitimacy (%)	AFDC ($/month)	Income ($/year)	Urban-ization (%)	Black (%)	Dukakis vote (%)	Unexplained Illeg. (from (23)) (%)
Maine	19.8	125	12,955	36.1	0.3	44.7	2.8
New Hampshire	14.7	140	17,049	56.3	0.6	37.6	2.3
Vermont	18.0	159	12,941	23.2	0.4	48.9	-4.9
Massachusetts	20.9	187	17,456	90.6	4.8	53.2	-6.2
Rhode Island	21.8	156	14,636	92.6	3.8	55.6	-5.2
Connecticut	23.5	166	19,096	92.6	8.2	48.0	2.3
New York	29.7	166	16,036	91.2	16.1	51.6	-3.8
New Jersey	23.5	119	18,615	100	14.4	43.8	6.2
Pennsylvania	25.3	111	14,072	84.8	9.4	50.7	3.4
Ohio	24.9	102	13,326	78.9	11.0	45.0	2.6
Indiana	22.0	84	12,834	68.1	8.4	40.2	4.9
Illinois	28.1	101	15,150	82.5	16.1	49.3	6.7
Michigan	20.4	156	14,094	79.9	14.6	46.4	-14.0
Wisconsin	20.7	160	13,296	66.5	4.8	51.4	-8.5
Minnesota	17.1	171	14,037	66.6	1.6	52.9	-11.0
Iowa	16.2	124	12,475	43.4	1.9	54.7	-3.5
Missouri	23.7	87	13,340	66.0	10.8	48.2	5.9
North Dakota	13.9	125	11,388	38.4	0.5	44.0	-7.2
South Dakota	19.4	94	11,611	29.1	0.3	47.2	6.2
Nebraska	16.8	108	12,773	47.6	3.4	39.8	-0.2
Kansas	17.2	110	13,235	53.4	5.8	44.2	-1.2
Delaware	27.7	99	14,654	65.9	18.9	44.1	2.1
Maryland	31.5	115	16,397	92.9	26.1	48.9	-0.4
DC	59.7	124	17,464	100	68.6	82.6	0.5
Virginia	22.8	97	15,050	72.2	19.0	40.3	-2.1
West Virginia	21.1	80	10,306	36.5	2.9	52.2	2.1
North Carolina	24.9	92	12,259	55.4	22.1	42.0	-6.0
South Carolina	29.0	66	11,102	60.5	30.1	38.5	-5.0
Georgia	28.0	83	12,886	64.8	26.9	40.2	-3.5
Florida	27.5	84	14,338	90.8	14.2	39.1	5.0
Kentucky	20.7	72	11,081	46.1	7.5	44.5	1.4
Tennessee	26.3	54	12,212	67.1	16.3	42.1	5.7
Alabama	26.8	39	11,040	67.5	25.6	40.8	0.5
Mississippi	35.1	39	9612	30.5	35.6	40.1	2.4
Arkansas	24.6	63	10,670	39.7	15.9	43.6	1.3
Louisiana	31.9	55	10,890	69.2	30.6	45.7	-1.4
Oklahoma	20.7	96	10,875	58.8	6.8	42.1	-4.8
Texas	19.0	56	12,777	81.3	11.9	44.0	0.9
Montana	19.4	120	11,264	24.2	0.2	47.9	0.5
Idaho	13.0	95	11,190	20.0	0.4	37.9	-0.6
Wyoming	15.8	117	11,667	29.2	0.8	39.5	-2.3
Colorado	18.9	109	14,110	81.7	3.9	46.9	1.3
New Mexico	29.6	82	10,752	48.9	1.7	48.1	14.0
Arizona	27.2	92	13,017	76.4	2.7	40.0	12.0
Utah	11.1	116	10,564	77.4	0.7	33.8	-14.0
Nevada	16.4	86	14,799	82.6	6.9	41.1	3.2
Washington	20.8	157	14,508	81.6	2.4	50.0	-4.8
Oregon	22.4	123	12,776	67.7	1.6	51.3	1.5
California	27.2	191	16,035	95.7	8.2	48.9	-6.8
Alaska	22.0	226	16,357	41.7	3.4	40.4	-10.0
Hawaii	21.3	134	14,374	76.3	1.8	54.3	1.1
United States	24.5	124	14107	77.1	12.4	46.6	0

Table 4: The Data and the Regression Residuals
(Extreme values are boxed. Sources and definitions are in footnotes 23 and 25.)

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