

IFLIP Guide 02-1

Starting Research and Writing a Research Paper

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Foreword

John Creedy has been the Truby Williams Professor of Economics at the University of Melbourne, Australia, since 1987. He is currently on leave at the New Zealand Treasury. Economic research has been the constant focus of his professional life as a Research Officer at the National Institute of Economic and Social Research, London, and throughout his academic career. He has held Chairs in economics on three continents, including the Pennsylvania State University (USA) and Durham University (UK), and from 1980 to 1983 he was Head of the Department of Economics at Durham University. Professor Creedy has published extensively on inequality, income distribution, social programmes, taxation and labour market issues such as unemployment, immigration and earnings. He is the author of several books on such specific issues as well as of general economic textbooks. He has published numerous articles in professional journals. Professor Creedy is a Fellow of the Academy of Social Sciences of Australia. He was the editor or co-editor of the *Australian Economic Review* between 1989 and 2000. He is an associate Editor for the *Review of Income and Wealth*, the *Journal of Economic Inequality*, the *Australian Journal of Labour Economics* and several other professional journals.

The broad set of issues covered and the clarity of exposition in this guide will appeal to every scholar involved in economic research. Professor Creedy's vast experience, talent and dedication to research made him the perfect person to write it. I would like to thank him for agreeing to provide IFLIP researchers with such a useful and well-crafted tool.

September 2002

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Abstract

This paper provides a brief guide for those undertaking a research project and writing a paper or report. It discusses the nature of research and gives suggestions for specifying and planning a research topic. The structure and appearance of a paper are described and suggestions are made regarding the writing process. Emphasis is placed on the need to achieve clarity.

* This paper arose from a series of talks to research students at the University of Melbourne. It is a substantially revised version of Creedy, J. (2001) Starting research. *Australian Economic Review* 34(1), pp. 116-124. I should like to thank Robert Dixon, Dominique Gross, Guyonne Kalb, Joanne Loundes, and Denis O'Brien for helpful comments on an earlier version. As this is not itself a scholarly paper, I have not added the full details of sources of very brief quotations.

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1. Introduction

The aim of this paper is to provide a brief guide for those undertaking a research project and writing a paper or report. It sets down explicitly some of those things that experienced researchers often take for granted. The process of planning and executing a research project, and producing a research paper which communicates results in a clear and succinct way, is far from self-evident even to those with extensive experience of writing other types of report or essay. In view of the many stages involved in producing a paper, it might be useful to refer to this document at regular intervals during the course of the work.

In writing a research report or paper, the major objective, which cannot be overstated, is the achievement of clarity. What is needed is a transparent statement of the issues, methods and results. This is much more difficult than is usually realised. A willingness to respond to constructive criticisms and suggestions, along with requests for clarification, is essential. It is necessary to develop an appropriate style of writing, one that is quite different from that used for other purposes. This paper provides some brief practical suggestions for organising the writing of a research paper and giving it the appropriate “shape” or appearance: it must look like a serious piece of research. These suggestions should of course also be supplemented by careful study of the writing styles of exemplary authors.

The nature of the research process is described in Section 2. This is necessary because research is so different from other forms of activity.¹ In arriving at a research topic and formulating a plan, it is usually necessary to transform and narrow a broad topic by a process of improving the focus, so that it deals with a well-defined and interesting problem that can be handled within an appropriate time period. Suggestions for arriving at a precise research topic and making a start on research are made in Section 3. This section also stresses the importance of careful planning, even though many problems and contingencies cannot be foreseen.

The typical structure, or shape, of a research paper is described in Section 4. Special attention is given to the introduction and the review of previous literature, as these features present special problems. A research paper must satisfy certain fundamental scholarly requirements or proprieties; these are also explained. Section 5 provides some suggestions regarding the basic layout and appearance of the report. This concerns such things as the use of tables, footnotes and citations. Some suggestions regarding the writing process are given in Section 6, which includes recommendations regarding features to avoid. Section 7 provides some checklists, and brief concluding comments are in section 8.

2. The nature of research

¹ The term “research” has been abused in recent years, so that anyone capable of surfing the internet feels qualified to describe their activity as research (confusing search with research).

Research is a process of making discoveries: these may be new empirical regularities, new theoretical insights or improved understanding of issues. The research paper needs to say something quite new, rather than collating or rehearsing existing knowledge.² It therefore presents a difficult challenge. Contrary to a popular illusion, such progress is largely achieved by making a series of small steps, rather than taking giant leaps.

A distinguishing feature of research is that it is usually the researcher who formulates the precise question to be examined and decides on the approach used. Indeed, the precise specification of the problem examined is an important element in planning a project. The question has to be clearly defined and seen to be worthy of attention.

The need to say something new necessarily involves a movement into unknown territory; there is no easy way to check if the answers are right or if the best method of attack is being followed. Research therefore involves not only the continual exercise of judgement, but also a degree of confidence and willingness to take risks. In addition, there is no way to avoid occasionally following false leads and reaching an impasse, that is, going down “dead ends”. By their very nature, the reasons for particular judgements are not obvious to other people, so it is necessary to convince readers of the paper that the research project has been worthwhile; such acceptance cannot be taken for granted.

² Negative results are useful and should not be dismissed; these include, for example, finding that an econometric model, which previously provided a good fit to observed data, no longer performs well or does not apply to another country.

These aspects combine to ensure that research is interesting and intellectually rewarding, while it also gives rise to alternating phases of optimism and pessimism. There are times when all researchers feel overwhelmed by difficulties, and are confused, anxious and not at all sure that they have anything worth reporting. At other times progress can seem unusually rapid, often helped by what can only be described as the substantial role played by serendipity, where happy discoveries are made by accident. However, these happy accidents usually only arise after much concentrated thought on the topic; in other words, “fortune favours the prepared mind”.

Experienced researchers know that they will go through these alternating phases and that they can “work through” them. For those who are carrying out research for the first time, it is worth anticipating these features and understanding that such experience is not unique.

2.1. The nonlinear nature of research

A simplistic view of research may be described in terms of a linear model in which the first stage involves reading as much as possible on a chosen topic and, after having a brilliant idea of how to proceed; this is followed by the analysis. The process is completed by simply writing down the results in a coherent and readable form that will instantly establish the author’s world-wide fame. However, nothing could be further from the truth. Progress in research is actually highly nonlinear. It involves a complex process described in terms of a repeated cycle of writing and returning to further analyses and reading.³

³ Furthermore, papers are often completed as a result of the pressure of deadlines, or the need to turn to other work, rather than ending in a dramatic flourish.

Writing is itself a process of discovery; not least of the author's own level of understanding. It reveals gaps in the argument and suggests new avenues of research as well as, importantly, providing an error-trapping process. Most good research, however narrowly defined it may initially appear, has its own momentum. That is, the process of researching a particular topic leads to further questions and issues for investigation. The completion of a research paper is therefore often accompanied by negative feelings that, after all, not much has been achieved. It is worth remembering that this is simply an aspect of the general truth that the more we learn, the more conscious we are of our ignorance.

2.2. The ingredients of research

There is one fundamental ingredient without which research can never begin: that ingredient is curiosity. In addition to curiosity, research also requires a willingness and the energy to pursue various avenues, even if some of these may lead to a dead end. Furthermore, research needs imagination and flexibility to overcome the many inevitable problems along the road. Research also requires good judgement in selecting the appropriate techniques of analysis, deciding which aspects can be safely ignored and which assumptions are fundamental for the particular context, and assessing the value of the results at each stage. The best research reports will reflect these qualities. It is worth keeping in mind the following "rules".⁴

- There is no simple relationship between inputs of time and outputs of useful results. All research meets difficulties. Overcoming them may take a few minutes or it may take days or weeks. Successful research requires a willingness to do whatever is needed in order to overcome the problem.

⁴ These provide an example of the fact that some of the most important truths appear at first sight to be highly platitudinous, and much experience is often required before their importance is fully appreciated.

- Virtually everything takes longer than anticipated.

Research also involves intense concentration over long periods. It is not possible to return to a research project casually at irregular intervals or only when there are no other pressing commitments. It is necessary to allocate regular times to research and to keep a project moving forward. Indeed, concentration has to be such that research becomes something that is extremely hard to *stop* thinking about.⁵

3. Getting Started

Some researchers may be faced with a broad research question that other people have suggested, or that arises from a practical policy issue. Their main initial problem is to decide on the research plan, involving the method of attack. It is nearly always necessary to refine the statement of the problem, in particular to narrow the scope of the project further so that it is more clearly defined and manageable. As part of this process it is useful to express the topic in the form of an explicit question; if this cannot be done, it is likely that the subject is not well-defined. The initial temptation, to be strongly resisted, is to raise “big” questions which would occupy a lifetime of research.

⁵ When this stage is reached it is quite common for researchers to wake in the morning with the solution to a problem that seemed intractable before going to sleep.

In clarifying the research plan, much benefit can often be gained from discussions with other people, particularly experienced researchers who are familiar with the area and its potential problems. Think in terms of taking a number of small steps, rather than making great strides.

Many people who are new to research believe that a search of the relevant literature is part of the project. But it is more appropriate to view an initial investigation of the literature as a necessary preliminary exercise, that is, part of the planning stage. Indeed, a research project cannot be properly planned without an understanding of what other people have achieved, what methods and data (where appropriate) are needed, and what difficulties are likely to be faced.

It is too often assumed that the required data are available, especially if it is planned to replicate another study for a different country. The collection and examination of data should also be regarded as a necessary part of the planning of a project. When the data have been collected, it is useful to carry out preliminary exercises to assess their reliability. Many projects have foundered because of over-optimism regarding data.

The process of investigating the literature has been considerably eased by the existence of computer search facilities. But great care needs to be taken in using these aids. Only a familiarity with the subject can provide an indication of the “keywords” that are likely to be fruitful. Some bibliographic data bases are limited to journals (and necessarily only a selection of these), so that important contributions in books may be overlooked. There is no alternative to getting one’s hands dirty in a library. Examine the relevant specialist and general journals, and follow up the references given in the articles to other work that appears relevant.

3.1. Clarifying the research question

The following suggestions are designed to make the process of arriving at a precise research question or approach reasonably systematic. When reading journal articles or other research papers, keep the following points in mind.

- Journal papers are usually terse. They represent work which has matured over several years and editors nearly always ask for papers to be reduced in length before publication. Hence, a full understanding of the methods and the significance of the results can only be obtained after detailed and extensive study. This involves re-reading journal articles several times. Investigate whether an earlier version, in the form of a Discussion or Working Paper, is available. This can often provide more details.
- However, a quick initial read will generally be enough to allow identification of the main question considered by the author, the methods of analysis used, the data required and the nature of the results. These are the four major features that should receive your initial attention.
- After this preliminary look at particular papers, it is possible to judge whether they are of potential interest. You may reject several papers in this way before finding one that stimulates you to look closer.⁶ If you continue studying the paper, make notes about other literature cited in it, data used, analytical methods and principal results.
- Even at this early stage, keep orderly notes about the works consulted, including full bibliographical details. It can be extremely time-consuming at a later stage to have to go back to the library to obtain simple details like page numbers.

The importance of curiosity has already been mentioned. When reading papers, it is important always to ask questions, such as:

⁶ Many years ago, before the proliferation of journals, Stigler reported the average number of readers per journal article to be 1.5. It would be interesting to know whether the current median is greater than zero.

- Can the approach used in a study be applied to other contexts, countries or time periods?
- What assumptions are implicit? Are all the assumptions sensible? To what extent might the results be sensitive to the assumptions? How can they be relaxed? Are there any unnecessary assumptions?⁷
- Is the approach used the appropriate one? Have new techniques been developed since the paper was first written?
- Have all relevant statistical tests been carried out? Are the results consistent with expectation, or earlier work?
- Precise data relating to the theoretical concepts are often not available. Are the surrogate or constructed variables the most appropriate for the task? If a relevant variable has been omitted, can anything be said about the likely bias?
- Are there any implications of the study, which have not been fully drawn out by the author? Can these be exploited in your work?

3.2. The plan of attack

Research should not be allowed to drift along in a haphazard way: planning is crucial. It is useful to have a plan for the “big picture” as well as having daily or weekly lists of things to be done.

- Attach a time schedule to the plan. Aim to finish with several weeks to spare. This will allow time to leave the paper alone for a while and then give it a final polish after returning to it refreshed. It is surprising how many small but significant improvements can be made in this final stage.
- Start writing immediately. As mentioned above, writing is itself a process of discovery, revealing gaps in the argument (and your own understanding) and suggesting new lines of enquiry.

4. The structure of a research paper

A research paper must have the following characteristics.

- It should demonstrate a clear perception of the research problem, its relation to the “bigger picture” and the relevant literature.
- It should provide motivation for the research question and the support for the approach used.
- It should provide a clear statement of the methods used and the major results. A paper should demonstrate an ability to formulate a useful approach and provide support for judgements made in selecting techniques and data. Where relevant, the potential for further developments should be indicated.
- It must show an appreciation of the value and limitations of the results.

To achieve these ends, a research paper must be given a clear structure, which is helpful to the writer and the reader. The development of the argument needs to be transparent, so that the reader knows how any particular part of the paper fits into the whole. The following advice to theatrical producers, by WS Gilbert, may appear to be rather broad, but is worth repeating in this context: “Tell ’em what you are going to do; let ’em see you doing it; then tell ’em what you have done”.

⁷ To criticise a paper on the grounds that it makes a number of assumptions is beside the point, as all research requires assumptions. The skill is in avoiding “throwing the baby out with the bath water”.

A clear development is achieved by dividing the paper into sections, within which there may be subsections, and possibly subsubsections. However, the vast majority of papers need only three levels of headings; these are the main title, section and subsection headings. The titles should be brief and informative, and the first sentence after a title or subtitle should not rely on the title for its meaning, and should therefore not begin with the words, “This is ...”. Ensure that there are appropriate linkages between the various sections, to ensure continuity. These links help to clarify the logical structure of the paper. The use of titles is discussed further, along with other features of the layout of a paper, in Section 0 below.

The first section is of course the introduction, and a typical structure involves a following section describing the development of a framework or model. When presenting an empirical model, remember to state clearly the precise nature of the hypotheses being tested.⁸ Subsequent sections are likely to deal with the description of data and techniques used (where appropriate), theoretical or empirical results, further developments possibly including policy analyses, and finally a concluding section. The introduction may briefly discuss previous literature, or may be followed by a separate section providing a literature review. The introduction and literature review are much harder to write than is often assumed, and are therefore discussed in more detail here. Finally, suggestions regarding the conclusions are made.

4.1. The introduction

⁸ Remember that standard statistical tests, for example, fail to reject a null hypothesis compared with an alternative; they do not demonstrate that the model is the ‘true’ or ‘correct’ model.

The introduction is a crucial part of the paper; it often determines whether the reader continues or discards the paper. Even experienced researchers expect to have to revise their introductions many times, often substantially. In particular, it is worth returning to your introduction at the last stage in the “polishing” process, as your understanding of the precise contribution made by the paper improves. As suggested by Blaise Pascal, “the last thing one knows in constructing a work is what to put in first”.

An introduction needs to let the reader know, as quickly as possible, three important things. It must answer the questions “what?”, “why?” and “how?”. The reader needs to understand these features before being willing to devote time and patience to the rest of the argument. Do not digress, or fall into the trap of writing “content free” sentences in an overlong preamble.⁹ State the specific question examined in the paper as directly and quickly as possible. Do not be tempted to add material that should rightfully be placed in the concluding section. Say what is already known and signal what is new about your own paper, without making extravagant or empty claims or being negative about previous work.¹⁰

The introduction therefore provides, as well as a statement of aims, the motivation for the study and the particular approach adopted. However, remember that the introduction should be intelligible to someone turning to the topic for the first time. The paper will hopefully be read in the future by people who are not immersed in current debates. It should not be addressed to the few specialists who are completely familiar with the area, so do not be allusive.

⁹ A common content-free opening sentence informs the reader that, “ has been the subject of considerable debate in recent years”.

An important role of the introduction is to give the reader a clear view of the structure of the paper, so some kind of outline is needed. Provide plenty of signposts to point the way forward. These can most easily be added at a later stage, after the first draft has been completed.

4.2. The literature review

The aim of a literature review is to place your own work clearly within its larger context. While research involves a focus on a narrow range of questions, it is obviously important to understand how it relates to wider issues. A brief review of the existing literature can help to provide some motivation for your own analysis. In addition, it is only possible to establish a claim to have extended the literature by making clear the relevant contributions of others. In most cases where the paper deals with a well defined topic and builds on just a few earlier pieces of work, discussion of the literature can be achieved relatively quickly, without creating the need for a separate section or chapter. In this case it may be useful to provide one or two footnotes giving references to more broadly related studies. There is no need to discuss analyses, which are not pursued in your own paper.

Sometimes it may be necessary to provide an extensive review of earlier literature in a separate section. With a broader topic, there may be a larger number of papers having a direct relevance to your own paper. Sometimes a literature review is needed as a paper in its own right. Here it is important to aim to produce a synthesis, rather than a list, bringing a fresh perspective and set of judgements to bear on the subject.

¹⁰ For example, avoid the all-too-common sentence along the lines of, “To the best of the author’s knowledge,

This presents a difficult challenge as it calls for a mature and confident approach that results from long familiarity with the problem. Ideally, the discussion of the literature should be organised along analytical or taxonomic lines. This form of arrangement provides clear criteria for deciding whether, and where, an earlier work needs to be mentioned.

- Start with a clear statement of the broad problem.
- Distinguish alternative possible approaches, whose features may be analytical, involving a range of assumptions and techniques, or statistical/econometric, associated with data constraints and estimation techniques.
- Refer to earlier contributions in the context of these different approaches. Some works may therefore be included only as part of a list while others, judged to be the most important, may require further discussion.
- Indicate the strengths and weaknesses, in your judgement and without being unduly negative, of the various approaches and explain precisely where your study fits into the taxonomy.

The main thing to avoid in any literature review is what might be called the “card index” method, which consists of a dull and poorly organised sequence along the lines of, “A said this ... B said that ... and C said ...”.

4.3. The conclusion

The concluding section contains a relatively brief restatement of the aims of the paper, along with a summary of the main results to be stressed, in a relatively non-technical way (so that

this paper is the first to add an extra year of data to previous studies”.

a reader can turn from the introduction to the conclusions to obtain a quick impression of the outcomes of the research). The concluding section is not the place for extended discussions of policy implications or limitations; these should be placed elsewhere. It brings together the main messages from the paper rather than opening up a new line of debate, though brief hints of possible extensions may be made. There should be a strong closing sentence, rather than leaving the paper 'hanging in mid-air'. However, avoid claiming more than is warranted.

5. The appearance of a research paper

It is necessary to pay close attention to the "mechanics" of producing a paper; this not only ensures that the resulting paper looks like a professional piece of work, but makes life easier for the reader. For example, it is necessary to be consistent in the use of titles and numbering systems, so that the reader always knows the status of a particular heading. Make decisions regarding the following aspects at an early stage as it can be time consuming to make changes later.

In making these decisions, there are few unambiguously correct ways, for example, to number sections. What is important is consistency in the use of a chosen style. However, all publishers of books and journals, and organisations, which issue research reports, have their own "house style" to which authors must adhere. This means that papers are instantly recognisable as being the products of a particular institution. Compliance with an imposed style is often made easier by the use of "templates" used by word processors. If a house style is ultimately needed, it

is worth starting a paper by adopting the house style, rather than planning to make revisions at a later stage. Such revisions can be extremely time consuming. The early study and adoption of the house style can also help to inculcate good writing habits.

Detailed instructions regarding the ILO/IFLIP house style are provided in the appendix to this paper.

5.1. Titles and numbers

Most papers are unlikely to need more than three levels of titles. These are the main title of the paper, section titles (numbered 1, 2, ...), and subsection titles (numbered 1.1, 1.2, ...). Sometimes, subsubsection titles (numbered 1.1.1, 1.1.2, ...) may be needed. There is a vast choice of options here. First, a numbering system is needed, involving either arabic or roman (capital or lower case) numbers, or even alphabetical schemes. Always use a consistent font, capitalisation, spacing and position (either centred or against the margin), so that the reader immediately identifies the status of the title. Keep the titles succinct but meaningful. The first sentence after the title should not rely on that title for its meaning.

Number all tables and figures and give them succinct descriptive titles. Refer to all tables and figures in the text. Again, a house style specifies a numbering system and convention for titles (above or below tables and figures), which must be followed.

Number all equations, even if you do not refer to them. The numbers are useful when other researchers wish to make reference to the equations. House styles have particular requirements concerning the layout of equations, whether against a margin, indented or centred, and the position of numbers (and style used, for example whether separate numbers are used within sections or whether they are numbered continuously throughout the paper).

5.2. Notes and appendices

Use appendices for extensive data descriptions, longer derivations of analytical results, and subsidiary analytical or empirical results. Do not use appendices to define notation. The house style determines whether appendices are placed before or after the list of references.

Use footnotes for groups of references to literature, or qualifications of the main argument, or details that would interrupt the flow of the argument and which are not crucial for its development. Do not break a sentence with a footnote flag. Depending on the house style requirements, endnotes may be used instead of footnotes. Be sparing in the use of footnotes; the temptation to add lots of footnotes has sometimes been referred to as “foot-and-note disease”. Keep in mind that if you really want the reader to look at the material in a footnote, put it in the text of the paper instead.

5.3. References and citations

A consistent style must be used when citing other works. For example, a popular style involves the name, or names, of authors followed by the date and, if necessary, the page numbers in parentheses. For example, “Smith (1776: 210) suggested that ...”. If there are three or more

authors, use only the first; for example, “Jones *et al* (1998) showed that ...”.¹¹ If the same author has more than one piece with the same date, use, “Marshall (1890a) ...” and so on.

Ensure that quotations are accurate and give precise page references for all quotations, however small. It is unfortunately very easy for inaccuracies to creep into quotations. Do not alter quotations by, for example, adding emphasis (italics). Avoid wherever possible the use of ellipses (...), particularly if the material omitted is part of the argument in the quoted material, as distinct from an allusion or reference. Many house styles suggest that if quotations are three or more lines in length, they should be placed in a separate indented paragraph.

All bibliographical details should be placed in the list of references, arranged alphabetically by author. The list must be complete and accurate, but should include only those items cited in the paper. A consistent style must be used regarding capitalisation, italics, initials, pagination, punctuation and ordering of material. The production of the list of references requires much more time than most authors imagine. An alarming variety of styles is used, and there seems to be no limit to the imagination of publishers and editors in devising their own unique house style. However, it is important, having settled on a style, to be consistent. Later changes can be time consuming.

5.4. *Some proprieties*

Many aspects of research papers, such as the styles using for headings, citations and bibliographies, and arrangement of material, as discussed above, involve choices although they

¹¹ The terms *ibid*, *loc cit* and *op cit* are no longer used in the economics literature

may sometimes be imposed by house styles. However, there are some things that *must* be done to satisfy the minimum requirements of scholarship. These are listed here. Some of these points could well be arranged under the golden rule, *Do Not Plagiarise!*

- Always acknowledge earlier work on which you have built. Give precise sources of the results, diagrams and equations of other authors.
- State explicitly when you are summarising other people's arguments. This also helps you to be clear about precisely how you have made modifications and original contributions.
- For all data sources, full details must be given, including page numbers. It must be possible for someone to replicate your results with the minimum of effort in obtaining the same data. Keep fully documented data files in case you are asked to make the data available to other researchers. Similarly, documented computer programs should be retained.
- Acknowledge any help received while conducting the research or writing and revising the paper. However, acknowledge *only* those who have helped (not those to whom you have sent an earlier copy and who politely replied that they would “waste no time in reading” the paper). Avoid adding the tiresome and unnecessary caveat that, “all remaining errors are the responsibility of the author”.¹²

5.5. The front matter

All research papers and reports require some kind of front matter. As a minimum, this consists of a title page giving the title, the authors and their affiliation, and perhaps

¹² This is of course distinct from a disclaimer, where it is stated that the views do not represent an employer or organisation.

acknowledgments to colleagues or research grants. It may also contain an abstract. The abstract consists of a single paragraph (usually no more than about 300 words) stating the aims of the paper and perhaps major results. Sometimes a house style requires a table of contents, and perhaps separate lists of tables and figures, with the corresponding page numbers. The front matter may also include keywords. A house style also indicates rules for pagination, such as whether the front matter should be numbered separately.

If an Executive Summary is required, this also forms part of the front matter. This kind of summary consists of a series of short punchy paragraphs setting out the aims, methods, main results and qualifications in an easily digested form. Imagine delivering a summary to someone who is keen to know what is being investigated and needs to appreciate the main results and their value, but has very little time to spare.

6. The writing process

This section discusses the process or craft of writing, rather than the mechanics and appearance of a paper. The aim of writing is to achieve clarity. Getting a paper looking right is largely a matter of following a set of conventions, but clear writing is very difficult. There is no point in doing research unless it can be communicated to other people.¹³

¹³ Jevons pointed out, when commenting on Edgeworth's work, that the incentive to understand an opaque economic argument is small compared with a legal case involving large sums of money.

Clear writing requires great care and a capacity to read one's own work as if it were written by someone else. A main aim is to avoid writing "balderdash".¹⁴ Jacob Viner referred to two basic types of balderdash. The first, simple balderdash, arises where the author believes that he or she understands, but cannot make it intelligible to the reader. The second, compound balderdash, comes in two varieties. In one variety, neither the author nor the reader can make any sense of the text, and in the second variety, the reader thinks he or she understands but the author knows it is meaningless. It is frightening to realise just how easy it is to produce examples of these types.

6.1. Some writing basics

The nonlinear nature of research has already been stressed, so a significant amount of rewriting must be expected. Indeed, perhaps the most important rule of writing is that the first draft is not the final draft but is simply the start of a long process of revision. It is worth keeping in mind Samuel Johnson's statement that "what is written without effort is in general read without pleasure". It is remarkable how small changes to crucial expressions, or minor rearrangements of material, can substantially improve the clarity of a paper.

Much benefit can usually be gained by asking friends or colleagues to read a draft. But do not inflict on them a "half baked" draft that you know is incomplete or sloppy, use the spell-checker before handing it over, and do not expect everyone to read it with the same interest. Be

¹⁴ This is sometimes called gobbledygook.

careful to select people you know to be sympathetic and constructive, as anyone can find negative things to say, however good the paper. As George Canning, the 19th century British Prime Minister, pleaded, “save me from the Candid Friend”. However, do not try to defend the indefensible. Do not fall in love with your own writing. Be willing to respond to suggestions. A first requirement in writing anything, whether it is a research paper or a novel, is that the author needs to form a clear view of the reader. Never “talk down” to the reader. A certain amount of knowledge must be assumed, but be careful to avoid being too allusive. It is sometimes useful, in getting the level right, to imagine that you are giving a seminar presentation to your peers.¹⁵

6.2. The importance of an outline

At a very early stage in the research, draw up a detailed table of contents. This may take several days, as working out the arrangement of material is often difficult, particularly at a stage when little of substance has been achieved. The table should contain as much detail as possible, including section and subsection titles. This plan allows you to see the sequence of the argument at a glance (this sequence may of course be quite different from the research plan, discussed above). The writing will not necessarily move linearly from the start to the end, and having a clear view of the arrangement makes it possible to write in the most convenient order, while keeping the overall shape in mind.

6.3. Some hints for clear writing

¹⁵ Giving a seminar is a good way to expose ideas and concentrate the mind. Even if it does not elicit many comments, the experience can suggest revisions needed to the paper.

It cannot be said too often that the first draft will not be the last. There is a story of a visitor to an English stately house asking how the splendid lawns are produced. The answer was simply to sow the seed and then weed and roll it for five hundred years. An analogy can be drawn with good, clear writing. The following hints may be useful.

- Re-read as you go along. In particular, before turning to a new paragraph, read the previous one. Before starting a new writing session, re-read the previous work. This will help to improve continuity. Regularly check the linkages between sections.
- Stop writing while at a convenient point, when it is going well. Simply jot down a few notes and keywords as reminders. If the writing is going well, resist the temptation to keep going until you have reached the end of the particular section, or you have exhausted your current ideas. By stopping before reaching that point, you will find it much easier to pick up the work the next time and start again, knowing how it needs to proceed.
- When reading through what you have written, try to produce a succinct summary of each paragraph. This will help to determine whether a subtitle is needed, or whether you should change the order of the material, or whether anything needs to be added to improve continuity or clarity. Ask yourself if it is repetitive. If you cannot summarise the paragraph, delete it!
- Be gender neutral. This can easily be achieved without mixing singular and plural or over-using “he or she”.
- In reporting others’ work, use the past tense (as in, “economist X found that ...”). In indicating the contents of your later sections, use the present tense (as in, “Section X reports estimates of ...”).

6.4. Things to avoid

A research paper is not meant to be read aloud or to entertain the reader. It should be written in a calm and clear manner so that the emphasis is always on the issue at hand. Some suggestions, largely of features to avoid, are listed here.

- Avoid colloquial, conversational and highly personalised expressions.

- Avoid abbreviations (such as &, don't, and etc)
- Avoid overusing acronyms. They usually irritate readers who are not familiar with them.
- Avoid overusing personal pronouns (I, we, you, me).
- Avoid the overuse of quotation marks when introducing or using expressions, and avoid using italics to emphasise words.
- Avoid antiquated, verbose, pedantic and pompous language.
- Do not be allusive.
- Do not annoy the reader by making gratuitous negative remarks about other researchers' work. Instead, make direct and precise statements about how your work differs from previous analyses.
- Avoid an excessive use of adjectives and adverbs. When editing your first draft, look out in particular for "very", "extremely" and "highly", which are usually best deleted. In addition, "had" can often be deleted (as in "they had examined ..."). Avoid using "it can be noted that", "it is important to stress that" and "it is of interest that".
- Do not use metaphors, which usually add colour at the expense of clarity.
- Avoid writing content-free sentences (this trap seems to be particularly hard to avoid when writing introductions).
- Avoid using dot points. These may be convenient for notes or lecture presentations, but are out of place in a paper, which requires a continuous narrative.

7. Checklists

This section contains two sets of checklists. The first takes the form of a list of questions, while the second set is a list of reminders, which may be consulted before completion of the "first complete draft".

7.1. The structure of the analysis

- Is the problem clearly stated?
- Are hypotheses and assumptions explicit?
- Is the relationship to previous work made clear?
- Are the limitations acknowledged?
- Are the data fully described and their precise sources given?
- Are the conclusions explicitly stated?

7.2. The basic appearance of the paper

- Are the conclusions explicitly stated?
- Format: Check the preliminaries, title pages and contents pages.
- Headings: Check the consistency of style, fonts, numbering, and spacing.
- Quotations: Check their accuracy and page references. A large proportion of quotations are inaccurate!
- Tables: Check titles, abbreviations and details needed for interpretation and cross-references.
- Equations: Check numbering and cross-references.
- References: Are all cited works included? (Do not include those not cited) Are works in alphabetical order? Is the style consistent? Are all details given? (Volume number, page numbers, date and place of publication, publisher).

8. Conclusion

There is no easy formula for producing good research papers. Research requires curiosity, energy, imagination and flexibility to overcome the inevitable problems. It also requires

good judgement to select the appropriate assumptions and techniques of analysis, and to assess the value of results. The best research reports reflect these qualities.

Many challenges must be overcome and even researchers with considerable experience cannot avoid going down dead ends, occasionally writing sentences containing one of the two types of balderdash described above, or even forgetting to mention their key findings and assumptions. All work must be checked as carefully as possible and drafts must be edited and polished many times, paying close attention to detail as well as the overall shape and flow of the argument.

All this takes longer than envisaged. When planning research projects, produce a generous estimate, fully allowing for the fact that everything takes longer – then double the time and add some more for good measure. This is not an exaggeration!

In developing a style of writing research papers, a great deal can be learned by close study of authors who are particularly clear. All writers begin by imitating a style that they strongly admire and find attractive, but of course ultimately will need to find their own “voice”. However, be warned that, as the jazz musician Miles Davis once said, “sometimes you have to play a long time before you learn to sound like yourself”.

APPENDIX: GUIDELINES FOR IFLIP FINAL SUBMISSION OF PAPERS

The final submission is composed of the paper formatted according to the following instructions. These guidelines must be carefully followed in order for the paper to be posted on the IFLIP website. They correspond to international standards as well as ILO format for publications.

1. General information

- The total number of pages for the paper should not exceed 45, including tables, appendixes (Figures are not included in the page count). Page numbers must appear at the centre bottom of the page, using Arabic numbers. The page numbering starts with the executive summary.
- Left hand margin of 3.5 cm. Right hand margin at least 2.5 cm. Left and right justification.
- The documents must be in Word Perfect or Microsoft Word. The font used throughout the **whole document should be Times New Roman with font size 12** (i.e. the one used for these guidelines).
- The paper should exhibit the following sequence for the sections:

1. Front page	(no page number)
2. Table of contents	(no page number)
3. Executive summary	(start page numbering)
4. Main text	
5. References	
6. Appendixes	
7. Figures	(no page number)

2. Specific information

2.1. Front page

The typical front page should follow the following format: (see next page)

No other typing/graphic item (such as boxes, acronyms, colors etc.) will appear on the front page.

The following set-up must be strictly followed.

Title of paper

Author 1, affiliation^{*}

Author 2, affiliation

Date (month and year)

Abstract

No more than 100 words.

Single line spacing.

JEL Classification Numbers: *they identify the field of analysis and are available from the American Economic Association website: www.aeaweb.org/journal/elclasjn.html*

Keywords:

Corresponding author: postal and e-mail address.

^{*} Acknowledgements in footnote.

2.2. *Table of contents*

The table of contents should appear just after the front page. Main titles appear in bold while sub-titles appear in normal font. The list of tables and figures are included in the table of contents. Line spacing is 1.5.

Table of Contents

1. Section title	1
1.1. Sub-section title	2
1.2. Sub-section Title.....	5

List of Tables

Table 1: Title of Table 1.....	6
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Table 2: Title of Table 2.....	9
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Figure 1: Title of Figure 1

(Page numbers are indicated for the table of contents and the list of tables but not for the list of figures since figure pages are not numbered.)

2.3. *Executive summary*

- The executive summary should not exceed 5 pages, using single line spacing.
- The page numbering starts with the first page of the executive summary.
- The executive summary must be an easily readable text for non-specialist. It should flow and avoid disruptive features such as titles and long list of items.

2.4. *Main text*

- The main text should be written using double line spacing. Each paragraph starts with an indent and is separated from the following one by a return:

Text of the first paragraph_____

Text of the next paragraph_____

- Sections should be identified with numbers in sequence and using Arabic numbers (1., 2., ..., 1.1., 1.2., etc.). Avoid more than 3 levels in sub-section numbering (i.e., 1.1.1. maximum).
- Tables are to be inserted in the text where they are mentioned for the first time and numbered in sequence (Arabic numbers). Their title should appear in bold, such that:

Table 1: Title of Table.

- In the text the figures will be mentioned as Figure 1, Figure 2, etc. After mentioning a figure for the first time, the following sentence should be inserted:

[See Figure 1, end of document]

- Footnotes will be numbered sequentially and put at the bottom of the relevant pages, using font size 10.
- Equations should be numbered on the right-side of the page. All equations should be numbered.

$$y = ax+b \tag{1}$$

$$e = mc^2 \tag{2}$$

- In papers containing mathematical notations, it is of great help to the reader to have the definitions of all variables collected together in one place, usually the appendix. This does not eliminate the need for a short description in the text.

- Citations in text should be in the following format:

Single author:	Hollifield (1986)
Two authors:	Withers and Pope (1993)
More than two authors:	Greenwood et. al. (1997)
Several publications the same year by the same author(s):	Stiglitz (1998a), Stiglitz (1998b), etc.
When in parentheses:	(See for example, Hollifield, 1986, and Withers and Pope, 1993)

2.5. *Appendixes*

- Appendix should be presented with single line spacing.
- The list of acronyms, if necessary, should be included as an appendix.
- Similarly, the appendix includes any list of definition of variables (if applicable) and tables not inserted in the main text.
- Detailed explanations of data sources must be provided in the appendix as well as a copy of questionnaires used when applicable. Data not readily available must be provided separately from the paper itself in a useable format for future *IFLIP* researchers that may want to use it.

2.6. References

- All the references are presented in alphabetical order of authors and for a given author in ascending order of dates.
- References are presented using single line spacing. Each reference is separated from the following one by a return.

NB: it is essential to strictly respect the format of the references and to use the appropriate font style. The format of each reference determines the nature of the document i.e., book, article, paper, etc. Here are some examples:

Papers in journals

Single author: Hollifield, J. F., 1986, "Immigration Policy in France and Germany: Outputs versus Outcomes." *The Annals of the American Academy of Political and Social Sciences*. Vol. 485, May. 113-128.

Two authors: Withers, G., and D. Pope, 1993, "Do migrants Rob Jobs? Lessons of Australian History, 1861-1991." *Journal of Economic History*. Vol. 53, no. 4. 719-742.

Several authors: Greenwood, M. J., G. L. Hunt, and H. Kohli, 1997, "The Factor-Market Consequences of Unskilled Immigration to the United States." *Labor Economics*. Vol. 4. 1-28.

Paper in a book (for any number of authors)

Marr, W.L., and P.L Siklos, 1995, "Immigration and Unemployment: A Canadian Macro-economic Perspective." In *Diminishing Returns. The Economics of Canada's Recent Immigration Policy*. D. J. DeVoretz ed.

(Toronto: The C.D Howe Institute). 293-330.

Book (for any number of authors)

Johansen, S., 1995, *Likelihood-Based Inference in Co-integrated Vector Autoregressive Models*. (Oxford, U.K.: Oxford University Press).

Working Paper (for any number of authors)

Feenstra, R.C., J. E. Gagnon and M. M. Knetter, 1993, "Market Share and Exchange Rate Pass-Through in World Automobile Trade." NBER Working Paper no. 4399. National Bureau of Economic Research. April.

Unpublished document (mimeograph)

Calvo, G., and C. Reinhart, 1993, "Inflows of Capital to Developing Countries in the 1990s." Mimeo. University of Maryland.

2.7. Figures

- Figures should be placed at the very end of the paper, with numbers (Arabic) in sequence.

Figure 1: Title of Figure.

- There should be one figure per page. One figure can contain 2 or more diagrams.
- Titles, legends and axis labelling must appear clearly. The font in and around the figure must be Times New Roman. Avoid clustering figures with useless features.
- Avoid filling columns or pies in dark solid colours.
- The borders of the box containing imported figures should not be visible. The background of the figure must be white. Coloured lines are not acceptable since the printing is black and white. Lines should be distinct by using different types.