ECON 1960 - Analytical Writing

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Adapted from the writing course and *The Little Book on Research Writing* by Chaubey (2018)

Principles

- Barbara Minto's pyramid principle: a logical dialog between reader & writer, descending from high level to details (Minto, 2009)
- Dealing with complex arguments: group ideas in hierarchies

RAP

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  - Links your argument to readers' concerns
  - Answer to which lies in your paper

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  - Think about your main findings and summarize them
  - High level idea that takes readers to detailed findings
  - What is your main message?

RAP

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- A: answer
  - Think about your main findings and summarize them
  - High level idea that takes readers to detailed findings
  - What is your main message?
- P: positioning statement
  - Allow readers to see a space in the literature that R and A occupy
    - the current state of knowledge
    - a worthwhile direction in which it could be advanced
    - how R helps to move in that direction
  - Consider expectations formed about R & scope of A

P makes space for R, while R is answered by A

$\Longrightarrow$ Try different versions of RAP

Outline

Introduction Part I

Provoke curiosity

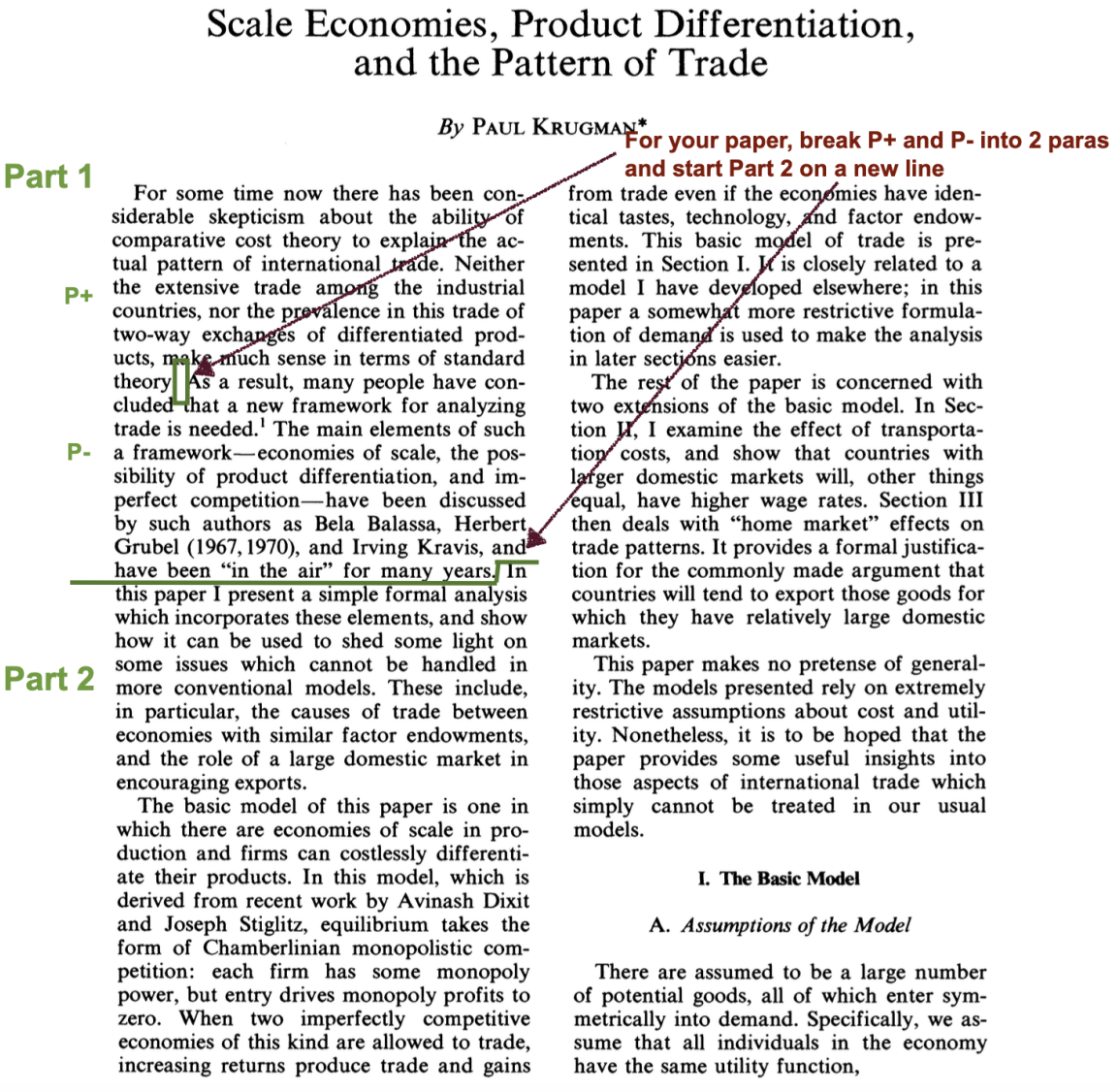
- Use P
- Insert reader's most logical questions into P
- Usually two paragraphs
  - P+: Important topic **worth knowing** that readers should be excited about
  - P-: Carve out an **yet unknown** space for you to contribute to

Introduction Part II

Help readers get ready for the main business of the paper

- Start with some version of "this paper..."
- Form a storyline that readers can recognize and prepares them for the body of the paper
- The first sentence of each paragraph
  - should form an argument to clearly convey your logic
  - should convey an idea, not detail
  - should offer the paragraph's RAP-relevant main message while provoking follow-up questions to be answered in its body
- Good example: first sentence should carry forward at least one phrase from the previous first sentence: linguistic links $\Longrightarrow$ logical links
- Paragraphs are units of argument, designed to help readers see how argument is advanced by chunk of details

Example I



Scale Economies, Product Differentiation, and the Pattern of Trade

By PAUL KRUGMAN*

For your paper, break P+ and P- into 2 paras and start Part 2 on a new line

Part 1

P+

P-

Part 2

For some time now there has been considerable skepticism about the ability of comparative cost theory to explain the actual pattern of international trade. Neither the extensive trade among the industrial countries, nor the prevalence in this trade of two-way exchanges of differentiated products, make much sense in terms of standard theory. As a result, many people have concluded that a new framework for analyzing trade is needed.[1] The main elements of such a framework—economies of scale, the possibility of product differentiation, and imperfect competition—have been discussed by such authors as Bela Balassa, Herbert Grubel (1967, 1970), and Irving Kravis, and have been "in the air" for many years. In this paper I present a simple formal analysis which incorporates these elements, and show how it can be used to shed some light on some issues which cannot be handled in more conventional models. These include, in particular, the causes of trade between economies with similar factor endowments, and the role of a large domestic market in encouraging exports.

The basic model of this paper is one in which there are economies of scale in production and firms can costlessly differentiate their products. In this model, which is derived from recent work by Avinash Dixit and Joseph Stiglitz, equilibrium takes the form of Chamberlinian monopolistic competition: each firm has some monopoly power, but entry drives monopoly profits to zero. When two imperfectly competitive economies of this kind are allowed to trade, increasing returns produce trade and gains from trade even if the economies have identical tastes, technology, and factor endowments. This basic model of trade is presented in Section I. It is closely related to a model I have developed elsewhere; in this paper a somewhat more restrictive formulation of demand is used to make the analysis in later sections easier.

The rest of the paper is concerned with two extensions of the basic model. In Section II, I examine the effect of transportation costs, and show that countries with larger domestic markets will, other things equal, have higher wage rates. Section III then deals with "home market" effects on trade patterns. It provides a formal justification for the commonly made argument that countries will tend to export those goods for which they have relatively large domestic markets.

This paper makes no pretense of generality. The models presented rely on extremely restrictive assumptions about cost and utility. Nonetheless, it is to be hoped that the paper provides some useful insights into those aspects of international trade which simply cannot be treated in our usual models.

I. The Basic Model

A. *Assumptions of the Model*

There are assumed to be a large number of potential goods, all of which enter symmetrically into demand. Specifically, we assume that all individuals in the economy have the same utility function,

Example II

ESTIMATING WELFARE IN INSURANCE MARKETS USING VARIATION IN PRICES*
LIRAN EINAV, AMY FINKELSTEIN, MARK R. CULLEN

I. Introduction

PART 1

****For your paper, give P+ and P- a para each****

there has been relatively little empirical work devoted to quantifying the inefficiency that selection causes in a particular insurance market, or the welfare consequences of potential policy interventions in that market. This presumably reflects not a lack of interest in this important topic, but rather the considerable challenges posed by empirical welfare analysis in markets with hidden information.

P+

Recently, there have been several attempts to estimate the welfare costs of private information in particular insurance markets, specifically annuities (Einav, Finkelstein, and Schrimpf 2010) and health insurance (Bundorf, Levin, and Mahoney 2008; Carlin and Town 2009; Lustig 2009). These papers specify and estimate a structural model of insurance demand that is derived from the choices of optimizing agents, and recover the underlying (privately known) information about risk and preferences. This allows rich, out-of-sample, counterfactual welfare analysis. However, it requires the researcher to make critical assumptions about the nature of both the utility function and individuals' private information. These modeling choices can have nontrivial effects on the welfare estimates. Moreover, they are often specific to the particular market studied, making it difficult to compare welfare estimates meaningfully across markets or to readily adapt these approaches from one context to another.

P-

PART 2

Our objective in this paper is therefore to propose a complementary approach to empirical welfare analysis in insurance markets. We make fewer assumptions about the underlying primitives, yet impose enough structure to allow meaningful welfare analysis. These fewer assumptions come at the cost of limiting our welfare analyses to only those associated with the pricing of existing contracts.

We start in Section II by showing how standard consumer and producer theory—familiar to any student of intermediate micro—can be applied to welfare analysis of insurance markets with selec-

Example III

THE LOG OF GRAVITY

J. M. C. Santos Silva and Silvana Tenreyro*

Abstract—Although economists have long been aware of Jensen's inequality, many econometric applications have neglected an important implication of it: under heteroskedasticity, the parameters of log-linearized models estimated by OLS lead to biased estimates of the true elasticities. We explain why this problem arises and propose an appropriate estimator. Our criticism of conventional practices and the proposed solution extend to a broad range of applications where log-linearized equations are estimated. We develop the argument using one particular illustration, the gravity equation for trade. We find significant differences between estimates obtained with the proposed estimator and those obtained with the traditional method.

Part 1

I. Introduction

ECONOMISTS have long been aware that Jensen's inequality implies that $E(\ln y) \neq \ln E(y)$, that is, the expected value of the logarithm of a random variable is different from the logarithm of its expected value. This basic fact, however, has been neglected in many econometric applications. Indeed, one important implication of Jensen's inequality is that the standard practice of interpreting the parameters of log-linearized models estimated by ordinary least squares (OLS) as elasticities can be highly misleading in the presence of heteroskedasticity.

P+

Although many authors have addressed the problem of obtaining consistent estimates of the conditional mean of the dependent variable when the model is estimated in the log linear form (see, for example, Goldberger, 1968; Manning & Mullahy, 2001), we were unable to find any reference in the literature to the potential bias of the elasticities estimated using the log linear model.

P-

Part 2

In this paper we use the gravity equation for trade as a particular illustration of how the bias arises and propose an appropriate estimator. We argue that the gravity equation, and, more generally, constant-elasticity models, should be estimated in their multiplicative form and propose a simple pseudo-maximum-likelihood (PML) estimation technique. Besides being consistent in the presence of heteroskedasticity, this method also provides a natural way to deal with zero values of the dependent variable.

Using Monte Carlo simulations, we compare the performance of our estimator with that of OLS (in the log linear specification). The results are striking. In the presence of heteroskedasticity, estimates obtained using log-linearized models are severely biased, distorting the interpretation of the model. These biases might be critical for the comparative assessment of competing economic theories, as well as for the evaluation of the effects of different policies. In contrast, our method is robust to the different patterns of heteroskedasticity considered in the simulations.

We next use the proposed method to provide new estimates of the gravity equation in cross-sectional data. Using standard tests, we show that heteroskedasticity is indeed a severe problem, both in the traditional gravity equation introduced by Tinbergen (1962), and in a gravity equation that takes into account multilateral resistance terms or fixed effects, as suggested by Anderson and van Wincoop (2003). We then compare the estimates obtained with the proposed PML estimator with those generated by OLS in the log linear specification, using both the traditional and the fixed-effects gravity equations.

Our estimation method paints a very different picture of the determinants of international trade. In the traditional gravity equation, the coefficients on GDP are not, as generally estimated, close to 1. Instead, they are significantly smaller, which might help reconcile the gravity equation with the observation that the trade-to-GDP ratio decreases with increasing total GDP (or, in other words, that smaller countries tend to be more open to international trade). In addition, OLS greatly exaggerates the roles of colonial ties and geographical proximity.

Using the Anderson–van Wincoop (2003) gravity equation, we find that OLS yields significantly larger effects for geographical distance. The estimated elasticity obtained from the log-linearized equation is almost twice as large as that predicted by PML. OLS also predicts a large role for common colonial ties, implying that sharing a common colonial history practically doubles bilateral trade. In contrast, the proposed PML estimator leads to a statistically and economically insignificant effect.

The general message is that, even controlling for fixed effects, the presence of heteroskedasticity can generate strikingly different estimates when the gravity equation is log-linearized, rather than estimated in levels. In other words, Jensen's inequality is quantitatively and qualitatively important in the estimation of gravity equations. This sug-

Example IV

Can book-to-market, size and momentum be risk factors that predict economic growth?

Jimmy Liew, Maria Vassalou

Journal of Financial Economics 57 (2000) 221}245

PART 1 ****For your paper, break P+ and P- into 2 paras & start Part 2 on a new line****

P+ A growing body of research shows that certain empirical anomalies found in the U.S. stock market appear to also exist in international markets. Fama and French (1998) show that there exists a strong value premium in global stock markets. Rouwenhorst (1998) finds international evidence for a momentum effect. Following Banz (1981), many authors have investigated whether small capitalization stocks outperform large capitalization stocks on a risk-adjusted basis, with varying degrees of success.[i] However,

P- researchers have so far found little evidence of a relation between these three return-based anomalies and intuitive economic risk factors. This paper takes one step in that direction by linking the unidentified return-based factors to future growth in the macro economy.

PART 2

We construct the HML, SMB, and WML portfolio strategies using security returns from ten developed markets. For each market, HML is the return to a portfolio strategy that is long on high book-to-market stocks and short on low book-to-market stocks, holding the other two attributes (size and momentum) constant. Likewise, SMB and WML are returns to long-short portfolios constructed using market capitalization and past year's returns information (momentum), respectively, holding the other two attributes constant.

Exercise

Write your RAP in our google doc in the next 15min. You might be tempted to write several versions of RAP.

Excercise cont.

Exchange your RAP with a peer. Read their favorite version. While reading, leave comments:

- Read P
  - Assess each part: worth knowing + as yet unknown
  - Comment: what R do you expect?
- Read R
  - Comment: Is this the R you expected? If not, why not?
  - Check that key terms match P, length is good
- Read A
  - Length: Up to 25 words
  - Comment: Does A match R?
  - Does it have an answer word that matches the query word in R?
  - Does it use many key terms from R?
  - Are any idle questions provoked by P answered here?

Outline

Checklist for Introduction

- Part I
  - Glance at both paras: Are paras of reasonable length? Each one should be < 100 words
  - Is there a "This paper"? (If so, should it be here or wait until the start of Part 2)
  - Read both paras: Does each para make one point?
  - Do the points match the logic of P?
  - Is R provoked by the end? (If not, why not?)
  - Any unnecessary details or info arriving in the wrong order?
- Part II
  - Skim 1st sentences–what's the story? (Repeated key term/phrase?)
  - Do Paragraphs follow principles of good regular paragraphs
  - 5-6 sentences per para?

Checklist for Body

- Headings provoke the right questions; these are answered at a high level in the takeaway
- Purpose of each section is clear
- 1st paragraph in section is takeaway: offers RAP-relevant main message of section (1-3 sentences)
- Key terms from RAP show up in section takeaways
- Regular paragraphs
  - They support/develop ideas in the takeaway (They answer questions provoked by the takeaway)
  - Paragraphs follow principles of good regular paragraphs
  - The 1st sentence offers up main point of paragraph and links with/supports the RAP
  - Right logical connectors
  - Consistent key terms

References

Chaubey, V. (2018): *The little book of research writing: the structural challenge of communicating knowledge+ a method to meet it*, CreateSpace Independent Publishing Platform.

Minto, B. (2009): *The pyramid principle: logic in writing and thinking*, Pearson Education.