

Special Lecture (2010c): Advice for graduate students

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Outline:

1. Ideas and Papers
2. Presentations
3. Psychological health
4. (Also see job market advice on the department web site.)

1 Ideas and Papers

1.1 Getting started in the first year

- Start thinking about research ideas now
- Attend some brownbags and research workshops (multiple fields?)
- Consider making a presentation (use commitment strategy)
- Read research papers (quickly), asking yourself, what has the author failed to consider that would transform her analysis?

1.2 Observe real markets. Ask yourself...

- What is going on in this market?
- How are pricing, marketing, bundling, location, entry/exit decisions made?
- What is the competitive structure of this market?
- How are consumer search decisions made?
- What do consumers know and what are they overlooking?
- What is the structure of consumer preferences?

1.3 Formulate clear, interesting motivating questions

Why do East Asian countries save so much?

Why are economic outcomes so good in France, when their policies are so bad?

Why do kids drop out of high school?

Why do add-ons cost so much?

Why do competitors co-locate in NYC and disperse everywhere else?

Why does Detroit keep shrinking?

Why do low-income households save so little?

Why do contracts have fixed penalties for early termination?

Why do people dislike annuities?

Why are there no real mortgages?

Why do mutual funds charge different prices?

Why are mutual funds so much more expensive outside the United States?

Why do half of US households hold no equities?

Why is everyone suspicious of free trade?

Why are CEO options tied to absolute stock performance?

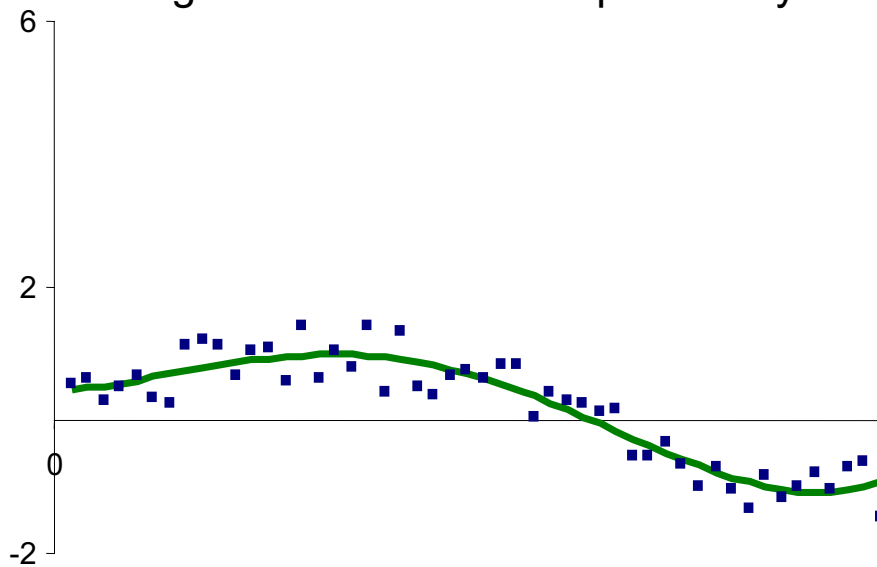
1.4 Properties of a good model

Any single property is neither necessary nor sufficient. Some properties are mutually exclusive. There are different ways to write a good paper. Your good paper should exhibit many of these properties.

The Seven Properties of Good Models (Gabaix and Laibson 2008)

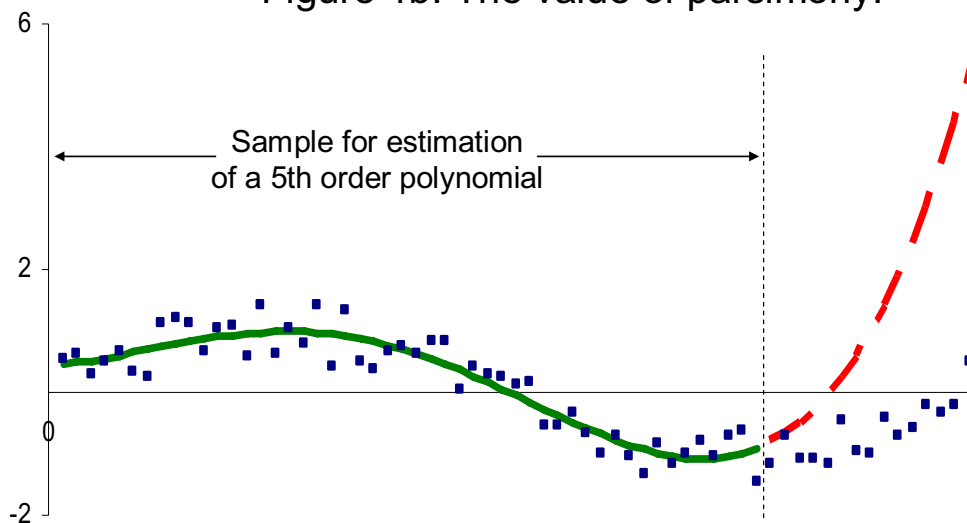
1. Parsimony
2. Tractability
3. Conceptual insightfulness
4. Generalizability
5. Falsifiability
6. Empirical consistency
7. Predictive precision

Figure 1a: The value of parsimony.



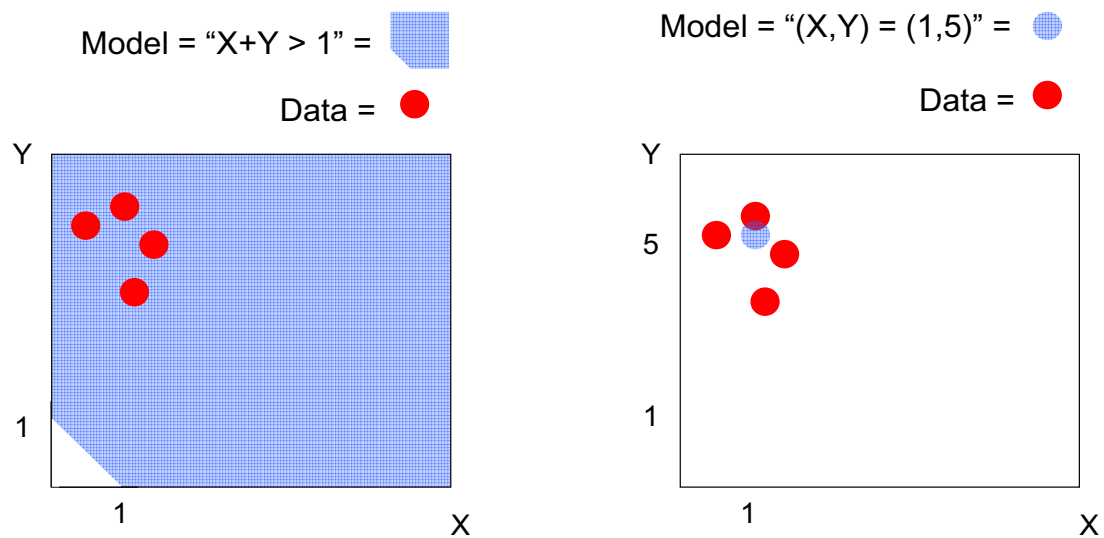
The data (squares) is generated by $\sin(x/10) + \varepsilon$, where ε is distributed uniformly between $-\frac{1}{2}$ and $\frac{1}{2}$. The sold line fits the first 50 data points to a fifth-order polynomial – a non-parsimonious model.

Figure 1b: The value of parsimony.



The data (squares) is generated by $\sin(x/10) + \varepsilon$, where ε is distributed uniformly between $-\frac{1}{2}$ and $\frac{1}{2}$. The sold line fits the first 50 data points to a fifth-order polynomial – a non-parsimonious model. The polynomial has good fit in sample and poor fit out of sample (dashed line).

Figure 2:
Falsifiability, Empirical Consistency, and Predictive Precision



Panel A: Model is falsifiable, empirically consistent, and does not have predictive precision.

Panel B: Model is falsifiable, empirically inconsistent, and has predictive precision.

If physicists wrote theorems like economists:

Theorem (existence and uniqueness): Two objects in a vacuum will have exactly 0 or 1 collision.

This is falsifiable.

But not very interesting or useful.

More useful classical physics:

Proposition: An object projected from the surface of the earth will follow a parabolic path, attaining a height of

$$h = \frac{v^2}{2g}$$

where v is the initial vertical velocity of the object and $g = 9.8 \text{ m/s}^2$.

Predictive Precision in Economics

- Black-Scholes Option Pricing Formula
- Auction Theory
- Solow model with the Kaldor facts
- Quantity theory of money

These theories make precise quantitative predictions that are almost exactly right.

Other (related) properties of a good paper:

Paper has a clear, interesting, well-defined, simple motivating question.

An empirical paper has a great (simple and interesting) fact at its heart.

Fact can be illustrated by plotting data.

Empirical results are well identified (in a sentence or two you can clearly explain how your parameters are identified).

Theoretical modelling is analytic (not black box), though sometimes numerical simulations are absolutely necessary. When you need to do numerical work, make sure you explain where the results are coming from with intuition or a simple analytic example.

Theoretical results do not depend qualitatively on functional form assumptions.

Paper makes technical innovations that have demonstrably wide applicability.

Model makes reasonable/standard assumptions but generates absurd predictions, which surprisingly turn out to be true.

Model makes reasonable/standard assumptions but generates absurd predictions, which turn out to be false (this kind of paper demonstrates that the assumptions are wrong, which is often quite useful to know).

Paper gives the reader a simple modelling tool that can be inserted in a wide set of situations. Portability is very valuable.

Idea is new.

You actually believe in the story you are telling.

Model makes at least a few novel predictions (untested).

Model has convincing microfoundation (resist reduced-form modelling).

Model is deductive not descriptive.

Model is about something important (not something arcane).

Predictions are true for the right reasons.

Model is about things that can be measured (somehow).

Your brother thinks your paper is interesting (and basically gets it).

1.5 Additional strategies for writing papers

Don't forget to exploit option value: nobody remembers the paper ideas that you pursued for three weeks and then dropped.

So project variance may be as important as project means.

The job market only "sees" one paper, so it's better to write one great paper than three decent papers.

Get feedback early and often (office hours, brownbags, friends, relatives, etc.)

Give brownbags early and often; don't be afraid to present a preliminary idea.

Force yourself to write models down. Shower theorizing is too easy. Spend quality time with a thick pad of paper and a mechanical pencil.

Keep working. Keep deriving. Keep writing. Keep revising. Learning by doing is the only way to become an economist. Make the most of your time in graduate school. Time is precious and will just get more and more precious.

Rewrite each paragraph until it says exactly what you want it to say

If English is not your first language, give your papers to a native speaker who is willing to edit them carefully.

Make the abstract perfect. 90% of your readers won't go any further than this, so it should almost stand on its own.

Make the introduction and conclusion nearly perfect. 95% of your readers won't go any further than this.

Remember to write the paper for a field and to a particular audience. On the job market, write in a way that will be comprehensible to any well-trained economist.

Write short, simple sentences. Avoid flowery language. Avoid strained formal language.

Fill the paper with intuition.

2 Presentations

The quality of your presentation is even more important than the quality of the writing in your paper

Keep your fonts readable from the back of the room

Keep your tables simple

Don't put up information that you don't want your audience to discuss (everything on a slide is fair game for a question)

Slides should be short and sweet and to the point

Give a practice presentation

Remember the curse of knowledge (it's easy to forget what it is like not to know something)

Set up the projector before the presentation begins (focus and center)

Erase blackboard before the presentation begins

Don't spend too much time introducing your topic or reviewing the literature

Get to the important stuff relatively early

Somewhere in the introduction explain your key results with intuition

Have an outline slide

Repeat the key points of the presentation at the end

Be prepared to cut material in mid-presentation if you are running out of time

Don't run out of time before you get to your key results

End on time (that is your responsibility not the seminar organizer)

Let people finish their question before you answer it (don't assume that you know the question)

Try to have a good time

Don't be defensive

Remember that all is not lost just because an audience member makes a critical (and correct) comment

Stand away from the projector so you don't block people's sight lines

Point at the wall and read your slides off of the wall (never read your slides off of the computer)

Move around the room but don't be frenetic

Don't play with your keys in your pocket

Don't fixate on anybody in the room (e.g., the Nobel Laureate)

3 Psychological health

Your classmates are probably as confused and scared as you are

Grades don't matter (as long as you pass the generals and the orals)

You are here because you are incredibly smart (that is not in doubt)

Being an academic economist is a terrible idea if you don't like it

Apply opportunity cost to your own life

Try not to let yourself get isolated intellectually or socially

Talk to Nicole, a faculty member, a classmate, or a UHS psychologist if you feel blue