Research Methods
Lecture 2

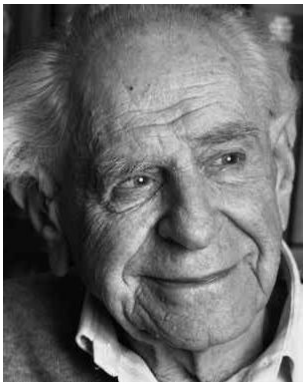
Macro and Development Economics

FULBRIGHT
Economics Teaching Program

The Methodology of Economics

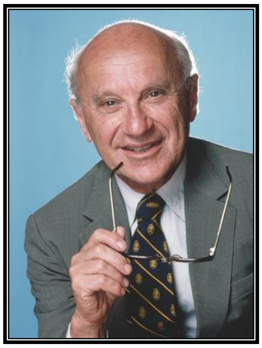
- Economists accepted methodological assumptions from natural science, but social reality is an *open system*
  - Many intervening variables
  - Impossible to establish laboratory controls
  - Beliefs of the researcher are always a factor: complete objectivity is not possible
- Positivism: Test universal theories with data
  - Theories must be logically consistent and show clear causality
  - The test must be replicable: if another scientist carries out the same test, he or she will get the same result

Karl Popper



- Nothing can be proved to be *always* true:
  - We can never be sure that our models are complete or that we have established causality
  - We progress by proving things *false* by replicating our experiments and eliminating unproductive lines of inquiry.
- *But in the social sciences can we prove things false once and for all?*

Milton Friedman (1912-2006)



- "The Methodology of Positive Economics": most influential methodological statement in economics
- Doesn't matter if the model is "true" if predictions are good
- Realism is not important: prediction is all that matters
- But if untrue assumptions lead to good prediction this could be accident not explanation

How do we actually *do* economics?

- We have certain beliefs (assumptions) for which we do not require evidence
  - For example, downward sloping demand curve or constant returns to scale
  - We may change our assumptions if confronted by enough evidence, but we are reluctant to do so.
- We move from what we believe is true to things that are open to doubt
  - We observe facts about the world that do or do not fit with our expectations (induction)
  - We suppose explanations based on the observation of economic phenomena (abduction)

Using models to make statements about the real world

- We recognize that our models are simplifications and therefore incomplete
- We understand that correlation does not establish causality
- Still, we search for regularities in data that are predicted by our models.
- Theory advances as evidence is put forward that supports new kinds of explanations
- But unlike physics, we can never screen out all of the intervening factors, as so our theories are always open to doubt

Reinhardt: Low savings rates in LA

- Macroeconomic theory proposes that lower inflation, positive real interest rates and macroeconomic stability would lead to an increase in private savings
  - This theoretical belief is inconsistent with the evidence: inflation down, interest rates up but savings down
  - She constructs a model to find statistical regularities to explain this anomaly
- The results suggest the need for a revision to theory based on new regularities in the data
  - Induction: Latin American realities differ from theory and observations elsewhere (higher income lowers savings)
  - Abduction: Savings rates are low in Latin America, so *perhaps* these other factors are present (unemployment)

Table 1: National and private saving rates in LAC and OTHER country groups

NNS	**1976-81**	**1982-90**	**1991-94**	**1991-2000**
LAC	12.21	8.19	8.88	8.88
OTHER	15.39	14.32	15.80	15.07
LAC/OTHER	*0.79*	*0.57*	*0.56*	*0.59*
GDS				
LAC	20.58	18.52	17.11	17.10
OTHER	21.56	22.39	23.97	24.81
LAC/OTHER	*0.95*	*0.83*	*0.71*	*0.69*
GPS				
LAC	17.29	15.88	14.18	
OTHER	17.86	17.55	19.37	
LAC/OTHER	*0.97*	*0.90*	*0.73*	

Source: Calculated from data in World Bank (1998; 2005).

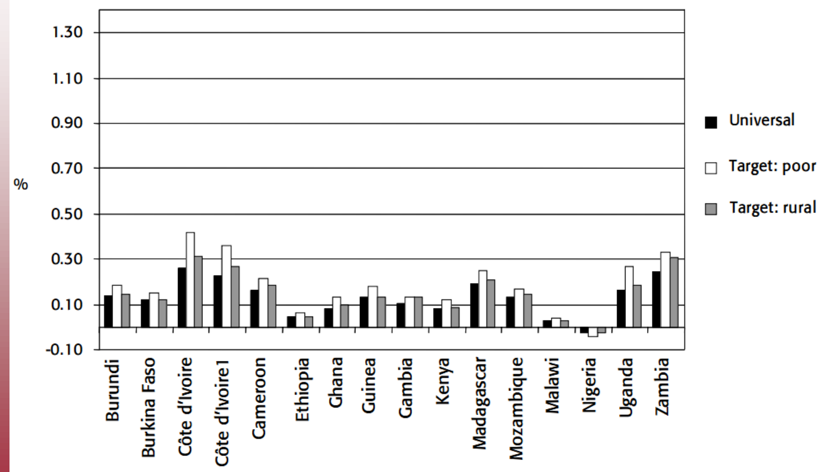
Bryceson, Bradbury and Bradbury (2008)

- Economists believe that roads are good for growth and poverty reduction. Is this belief justified?
- The authors propose a method based on rapid rural appraisal and comparison of newly accessible and inaccessible locations in three countries (Vietnam, Ethiopia and Zambia)
- Roads improve mobility and accessibility (entry of services into the village) and therefore may increase or decrease trips and distances traveled.
- Critical factor is access to motorized transport: motorbikes, trucks, buses: walking is dominant mode of transport in rural Africa
- Richer villagers in general benefit more than poor.

Kakwani, Soares and Son (2006)

- Conditional Cash Transfers (CCT) have been shown to increase school attendance in Latin America. Would it work in Africa?
- Scenarios created to simulate policy impact of CCT in 15 African countries
  - Uses household data to estimate enrolment effect of increase in income holding other factors constant
  - Results suggest that transfer would have to be very large to have a significant impact
  - Caution against assuming that Latin American results would be replicated in Africa

Figure 5: Increase in attendance, 5-16 years
(budget: 0.5% of GDP)



What do these examples show us?

- Start with a clear and concise research question
  - For example, an empirical finding that contradicts accepted theory (Reinhart)
  - Test a generally held belief with a new method (Bryceson, Bradbury and Bradbury)
  - Create scenarios to simulate policy impact (Kakwani, Soares and Son)
- Specify and justify the methodology
  - A well-tested and established method
  - A methodological innovation suited to a particular question, location or data set