Overview of the Research Process in Economics

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Objectives

• Describe the general research process for economics

• Discuss the necessary criteria for each phase of the research process

• Identify what constitutes a good research question/project
The Research Process

Researchers in Economics, as a social science, use a version of the *scientific method*. The *scientific method* is a set of procedures for drawing valid, reliable, and objective conclusions.
General Research Process

- Develop Hypothesis
- Review Topic/Lit
- Measurement
- Data Analyses
- Write Report

- Select Issue
- Research Design
The Scientific Method

• Select a scientific Problem or question;
• Apply a theory to derive a hypothesis about the problem or question;
• Test the hypothesis by comparing its predictions to evidence from the real world;
• Interpret the results of hypothesis testing with respect to original question
Requirements for a Good Research Project

There are a number of things necessary for completing a good piece of research.

- A Good Research Question;
- A Testable Hypothesis;
- A Good Data Set; and
- An Empirical Methodology that Adequately Tests the Hypothesis.

- Let’s return to our question on ‘Unemployment’
Steps of the Research Process for Economics

• Developing an Effective Research Question;
• Surveying the Literature on the Topic;
• Analyzing the Issue or Problem;
• Testing your Analysis;
• Interpreting the Results and Drawing Conclusions; and
• Communicating the Findings of the Research Project.
Requirements for a Good Research Project
Developing an effective research question

• The first and perhaps most important step in beginning a research project is to decide “What is the Research Question”?

• A “Research Question” is a question about the problem to be addressed, it is therefore focused on the content of the topic of interest.

• First identifying and then specifying a research problem might seem like research tasks that ought to be easy. However, this is often not the case.

• It is essential for the problem you formulate to be able to withstand scrutiny in terms of the procedures required to be undertaken.

• Researchers must spend considerable time in thinking it through.

• Researchers should always have a clear idea with regard to what is that they want to find out.
Developing an effective research question

• This is the most critical step in the Research Process

• The research question will impact
  • Literature to be reviewed
  • Data to be collected and how to be collected
  • Hypothesis
  • Analysis/testing
  • Conclusions
Considerations in selecting a Research problem

• Interest – should be the most important consideration in selecting a problem.

• Relevance - select a topic that is of relevance to your students.

• Magnitude – teachers having sufficient knowledge about the research process required and topic area; having adequate level of expertise for the task which is proposed

• Measurement of process- can elements of the question be quantified?

• Availability of data – available? If not, can you collect the data necessary?
Constructing Hypothesis

• The second most important consideration in the formulation of a research problem is the construction of hypothesis.

• Hypotheses bring clarity, specificity and focus to research problem.

• Hypotheses are based on guesses and must be based on theories – literature review. Theories tell us what might be going on – it does not tell us what actually is occurring.

• Hypotheses must be verifiable. The verification process should be done based on the information and the verification process will provide one of the three outcomes below:
  • Right
  • Partially right
  • Wrong

• Without this process of verification, the researcher cannot conclude anything about the validity of the assumption.

• Hence Hypotheses are a hunch, assumption, suspicion, assertion or an idea about a phenomenon, relationship or situation, the reality or truth of which the student intends to explore.
The functions of Hypothesis

- The formulation of hypotheses provides a study with focus. It tells what specific aspects of a research problem to investigate.

- Hypotheses tell what data to collect and what not to collect, thereby providing focus to the study.

- As it provides a focus, the construction of a hypothesis enhances objectivity in a study.

- A hypothesis enables the researcher to specifically conclude what is true or what is false.
The characteristics of a hypothesis

- A hypothesis should be simple, specific and conceptually clear.
  - Example: The average unemployment rate among males in San Fernando is higher than that of females.

- A hypothesis should be capable of verifications – Methods and techniques must be available for data collection and analysis.

- A hypotheses should be related to the existing body of knowledge – need for literature review.

- A Hypotheses should be ‘Operationalizable’ – This means that it can be expressed in terms that can be measured.
Selecting a method of data collection

• Third critical aspect to a good research question/project

• There are two major approaches to gather information about a situation, person, problem or phenomenon.
  • Primary data – collected by the student.
  • Secondary data – collected from other researchers/data sources.

• The choice of research question will determine the type of data to be used
  • If primary data to be used, need carefully planned instrument that addresses the hypothesis to be tested.
  • Can the question be framed differently such that secondary data can be utilized?
  • Where can we obtain useful secondary data?
Good Empirical Methodology

• The empirical methods and type of analyses must be capable of addressing the research question and hypothesis.

• Types of methods that may be effective
  • Comparisons among groups
  • Comparisons within groups

• Types of analyses that may be effective
  • Graphs showing relationships being tested
  • Correlation statistics
Questions, comments?
References

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