SESRI

Policy & Program Evaluation Workshop

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Outline: Session 6

- **Types and Sources of Data, II**

- **Units of Analysis**

- **Design Considerations**

- **Levels of Measurement**

- **Learning from Program Evaluation**

The Process of Operationalization: Research on Remittances (REVIEW)

What is a remittance?

The transmission of money to a foreign place

How will we know one when we see it?

A receipt for a transmission from a financial institution at either end of the transaction

Self-reports of transmissions

Aggregate monetary flows between countries

What about informal transmission of goods and products?

The Process of Operationalization: Research on Remittances - Units

What is a remittance?

The transmission of money to a foreign place

What is the unit for which we can observe or measure remittances?

A receipt for a transmission from a financial institution at either end of the transaction: **a transaction**

Self-reports of transmissions: **an individual**

Aggregate monetary flows between countries: **national-level data for a time period (how much per month or year)**

The Process of Operationalization

- **Deciding on the Units of Measurement and Units of Analysis, i.e. defining how the variables will be measured, observed, or formed.**

- **All the variables must be measured for the same units of analysis, especially when evaluating a hypothesis.**

- **Deciding on which research design will be used to collect the data.**

Units of Analysis

The link between units of analysis and research design.

- Individuals: surveys, RCT's (self-reports vs. experimental treatment)

- Administrative data: records for a transaction, a firm, a company/bank

What Does This Mean in Data Terms?
A Hypothetical Survey Data Matrix

V1	Sex	Age	Treat	Amount of Remittance (QR)
Resp1	M	25	1	880
Resp2	M	37	0	400
Resp3	M	30	0	285
Resp4	M	28	1	750
Resp5	M	40	0	1000

Levels of Measurement

Think about a study to test the following conceptual hypothesis:

$H_{C:}$ Exposure to financial advice will increase the size of remittances.

Exposure to

Financial

Advice

(IV)

Larger

Remittance

(DV)

How Could We Measure "Exposure to Financial Advice"?

Could recruit subjects for an experiment and randomly assign them to one of two groups:

Attend a financial seminar

Don't attend a financial seminar

This indicates whether a person received a treatment – it classifies them.

How Could We Measure "Exposure to Financial Advice"?

Could conduct a survey and ask the following question:

Have you ever received any financial advice on how to save part of your pay to send home as a remittance?

Yes

No

This is also classification. What's the difference?

How Could We Measure "Exposure to Financial Advice"?

Could conduct a survey and ask the following questions:

How much information have you received

about arranging to send money home?

Nothing

A little

A great deal

This measures more or less information.

How Could We Measure "Exposure to Financial Advice"?

Could recruit subjects and randomly assign them to one of three groups:

> Don't go to any savings seminar

> Go to one savings seminar

> Go to two savings seminars

This permits a direct comparison of the number of seminars attended on an absolute scale that reflects quantitative differences between respondents – **ratios.**

These Distinctions Are Referred to as Levels of Measurement

INFORMATION PROVIDED BY THE FOUR LEVELS OF MEASUREMENT

Type of Information Provided	Nominal	Ordinal	Interval	Ratio
Classification	X	X	X	X
Rank Order		X	X	X
Equal Intervals		X	X	X
Non-Arbitrary Zero				X

# General Rule of Operationalization

Measure at the highest level possible because you have more powerful statistical tools at your disposal.

This general rule holds true for both the independent and dependent variables.

Reformulating the Hypothesis

Think about a study to test the following conceptual hypothesis:

H_C: exposure to financial advice will increase the size of remittances. This effect will be smaller for employees with extensive prior knowledge of financial issues.

Prior Financial

Knowledge

Exposure to

Financial

Advice

(IV)

Larger

Remittance

(DV)
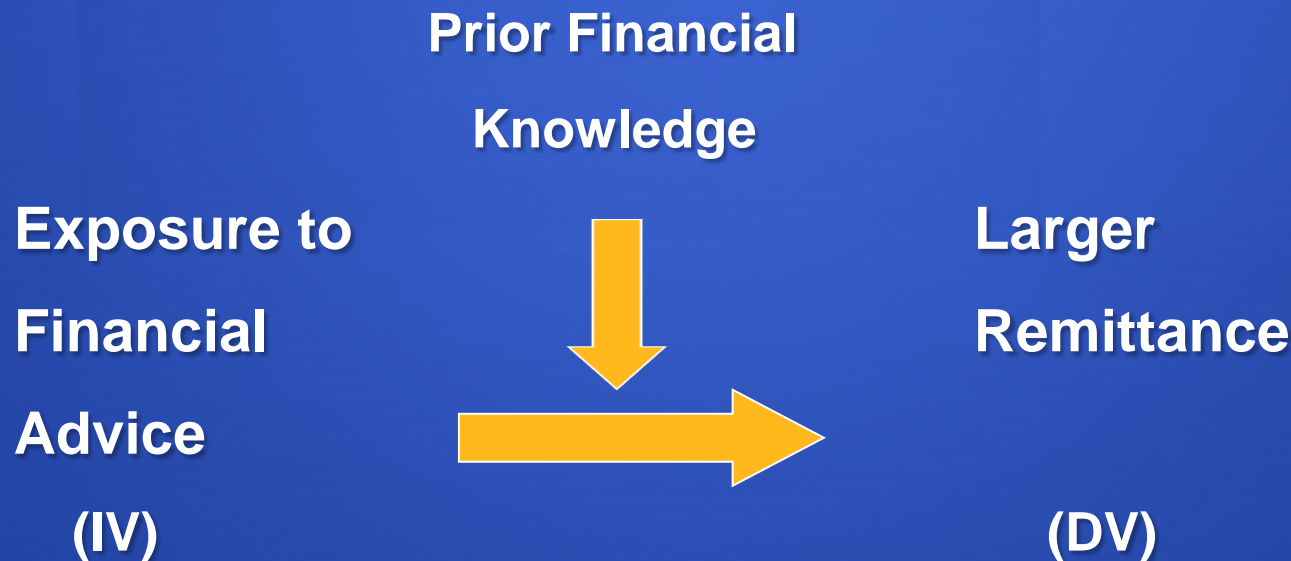
Reformulating the Hypothesis

What is the concept "prior financial knowledge"? What does it imply conceptually?

How could it be measured?

What would the unit of analysis be?

What kind of variables would be measured or observed?

What Does This Mean in Data Terms? A Hypothetical Survey Data Matrix

V1	Sex	Age	Treat	Amt. of Remittances (QR)	Firm Size	Fringe Benefits
Resp1	M	25	1	880	10,000	Some
Resp2	M	37	0	400	200	None
Resp3	M	30	0	285	335	None
Resp4	M	28	1	750	10,000	Some
Resp5	M	40	0	1000	26,354	A lot

Converting the Conceptual H to an Operational H

Using the final measure of the Independent Variable, we get the following Operational Hypothesis

H_{Op}: People who attend two financial seminars will send higher average remittances than those who attend one seminar or those who do not attend.

H_{Op}: People who attend a financial seminar will send higher average remittances than those who do not attend. This effect will be smaller for employees with extensive prior knowledge of financial issues.

Questions?

- **Write them down and pass them to one of the teaching staff so we can address them during the afternoon session.**

Learning from Program Evaluation

- **Evaluation is rarely an endpoint; it is a continuous process**
  - **Program Design**
  - **Initial Implementation**
  - **Process Evaluation**
  - **Preliminary/Multiple Outcome Evaluation**
  - **Evaluation Redesign**
  - **Program Redesign**

Learning from Program Evaluation (I)

- At the point of program design:
  - Does the design permit construction of a strong counterfactual?
  - Does the design conflate hypotheses with alternative explanations?
  - Is randomization an option?

- At the point of planning for initial implementation
  - Is there a control group?
  - Are selection effects embedded in the implementation?
  - Is a pre-test possible?

Learning from Program Evaluation (II)

- At the point of process evaluation:
  - Has each level of the program's administration been identified?
  - Has variation within as well as across target groups, stakeholders, and controls been assessed?
  - Can potential mechanisms be identified and operationalized?
  - Can data across levels of analysis be connected for future use?

- At the point of preliminary/multiple outcome evaluation
  - Do findings from the process evaluation explicitly inform the outcome evaluation?
  - Are the theoretical links between different outcomes considered?

Learning from Program Evaluation (III)

- **Evaluation Redesign - Using results from the current evaluation to change the design of a subsequent one**
  - Can additional data be collected by recruiting new participants? By additional forms of observation?
  - Will new forms of recruitment or observation change the behavior of study participants, in ways that will affect the results of the study and the program?
  - Will new data or new measures be comparable to results from earlier waves of the program evaluation?

Learning from Program Evaluation (IV)

- **Program Redesign – Using initial results to change the program**
  - Are the initial results from an outcome evaluation so positive that the program should be offered to the control group?
  - Do the initial results from an outcome/process evaluation suggest that significant aspects of the program should be modified to achieve better results or avoid negative ones?
  - Do the potential benefits of the modification outweigh the (1) uncertainty of those benefits (initiation effect) and (2) the potential benefit of increased knowledge over extended implementation?