Economics of Basic Income Experiments
- Theoretical Background and Some Practical Issues

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Outline

• Framework: Some labour theory
  – Labour supply model
  – Hypotheses / what kinds of effects are expected?

• Practical issues
Some labour theory

Labour economic theory predicts what will happen when something changes in the labour market.

What changes?
- Most importantly, policy: e.g. benefits, taxes, regulations

Will happen to whom?
- Individuals’ behaviour (worker / firm)
- At the level of the labour market
Labour Supply Model: Budget constraint

Budget line: What the individual can afford (i.e. possible choices)

Consumption if works 24/7 $wT + V$

Non-labour income (e.g. benefits) $V$ (equals consumption if doesn’t work)

Total time (e.g. 24 h, 7 days a week)

Leisure $L$

Consumption $C$ (€)
Labour Supply Model: Supply choice

- Total time (e.g. 24 h, 7 days a week) $T$
- Non-labour income (e.g. benefits) $V$ (equals consumption if doesn’t work)
- Consumption if works 24/7 $wT + V$
- Consumption $C$ (€)

Indifference curve: Points which are equally good from the point of view of the individual (reflects individual’s preferences)

Chosen amount of leisure / work

Total time (e.g. 24 h, 7 days a week) $T$

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Labour Supply Model

• For more info on labour supply model, see any labour economics textbook (e.g. Borjas: Labor Economics)
• Above model is simplified in many ways
• Model is made more realistic by modifying the model e.g.
  – budget constraint drawn based on benefit and tax system details
  – work hours constraints introduced (e.g. only part-time and full-time jobs available)
  – fixed disutility to work introduced
Labour Supply Model

• Introducing realistic features into the model does not usually greatly change the basic predictions of the model

Take-aways:
• Labour supply decisions depend on
  – 1) non-labour income (e.g. basic income)
  – 2) the wage rate (after taxes and benefits)

Basic income’s labour supply effects depends on how the basic income scheme changes 1) and 2)
• Additionally, costs associated with benefit take-up need to be taken into account...
• ...and changes in active labour market policies and such
Labour Supply Model

Some key concepts

• Effective tax rate = tax rate calculated in such a way that reduction of benefits is taken into account
• Marginal tax rate = how much of one extra euro earned goes to taxes (can be calculated as effective)
• Participation tax rate = what share of the wage paid by the employer becomes available for worker’s consumption
Labour Supply Model: 2 Margins

Empirical studies usually distinguish between two margins of labour supply reaction

1. Extensive margin
   - Work vs. does not work

2. Intensive margin
   - Hours of work

Extensive margin found to be more important in empirical studies (see e.g. Bargain, Orsini, Peichl, 2014, J of Human Resources)

• Hours of work rarely react to policy changes
Budget Constraint:
Monthly gross labour income (horizontal) and net income (vertical), one-person household, Finland 2011 (Honkanen & Tervola)

From yellow to blue:
Welfare benefit, Housing allowance, Unemployment benefit, Net labour income
Budget Constraint

• Budget constraints can be calculated using microsimulation models
  – under the current system
  – under any hypothetical system (such as basic income)

• Budget constraints can shed light on whether proposed schemes really change incentives in desired ways
How does basic income change the budget constraint?

- Depends on the proposal

- Basic income proposals differ in
  - the amount of basic income paid
  - the tax rate on additional income

- There seem to be no general characteristics shared by all basic income schemes
  - Schemes need to be looked at separately
  - Draw the budget constraints
Current system
Red line = Disposable income
One-person household

550 € Basic income
Above example

• Incentives to earn low incomes are improved...
• ...while incentives to earn higher incomes remain unchanged

• Important: This is just an example
• Virtually any kind of budget constraint can be attained by changing the amount of basic income and taxation
How to choose the BI scheme for an experiment?

• Basic income can generate about any kind of budget constraint
• Maybe experiment with schemes proposed by different parties?
  – The most feasible alternatives (politically)
How to choose the BI scheme for an experiment?

- Another view: Experiment with schemes that give credible estimates of behavioural effects of non-labour income and tax rates

- Makes it possible to anticipate behavioural responses to a BI scheme with about any benefit levels and tax rates

- Imagine that the experiment gives you estimates of
  - how much 10% change in benefits changes employment and
  - How much one percentage change in income tax rate changes employment

- Now you can calculate a prediction for the employment reaction to any imaginable benefit and tax rate change
Possible schemes

• Full BI
  – Replaces about all current benefits
  – Since largest benefits are large, full BI would be expensive

• Partial BI
  – Replaces some of the current benefits
  – Cheaper alternative
  – Does not cause changes for everyone
  – Most BI proposals are of this type; some current (means-tested) benefits remain (e.g. housing allowance)
BI Experiment: Practical Issues

• In addition to the schemes themselves, experiment involves a lot of practical details that need to be taken into account.

• Related concepts:
  – Treated = person who gets the “treatment” (BI)
  – Control = person who does not receive the treatment; the treated persons are compared to them.
Outcomes

Labour market outcomes
- Employment, working hours, earnings

There are other important outcomes
- Income, poverty
- Non-labour activities
- Subjective well-being

Many outcomes available from registers, others to be collected (e.g. surveys)

Simple statistics of multiple outcomes:
- Risk of finding an effect when there is none is known (e.g. 5%)
- In the case of multiple outcomes, the risk of finding at least one nonexistent effect increases
- Transparency of evaluation important: report how many outcomes have been looked at
Subjects: Who to choose?

- To get representative results, participation needs to be unrelated to outcomes
- Randomisation works
- Either simple randomisation or randomly selected groups (groups should not be related to outcomes)
Subjects: Who to choose?

- Choosing subjects from the whole pool of citizens results in a lot of people with large earnings participating.
- This is not necessarily a good thing, because of administrative costs but probably about zero reaction.
- Therefore, subject pool should be narrower.
  - E.g. based on household income.
Subjects: Who to choose?

- In addition to randomly selected subjects from the subject pool, a regional experiment is needed.
- In the regional experiment, some regions’ treatment intensity (share of treated) is larger.
- This is needed to take into account "externalities"
  - Getting basic income may influence others than just those who get it.
Subjects: Voluntary or involuntary?

- Voluntary participation creates very difficult problems for evaluation of the effects

- Imagine e.g. that individuals who prefer not to work are more willing to participate

- It inevitably follows that participants’ employment is lower than that of the control group

- Conclusion: Don’t make participation a choice
  - Notice that this restricts possible schemes because it would not be ethical to make participants significantly worse off
Subjects: Households or individuals?

- Aim of the experiment is to see how BI affects citizens
  - i.e. modify their budget constraint and see what happens

- In labour economics models, couples are thought to make decisions together (at least to some extent)
  - Household budget constraint instead of individuals’ budget constraint

- Choosing individuals instead of whole households creates peculiar and unrealistic budget constraints
  - No actual BI policy would create such constraints

- Conclusion: Choose whole households rather than individuals