The Practical Impossibility of Testing UBI

Abstract This chapter discusses one big difficulty with conducting experiments in Universal Basic Income (UBI): the practical impossibility of testing it under most practical circumstances and the problems created by using the Negative Income Tax as an approximation of UBI.

Keywords Basic income experiments • Negative Income Tax experiments • Social science experiments • Basic income • Universal Basic Income • Negative Income Tax • Inequality • Poverty

This chapter makes two arguments. First, in wealthy countries, it is effectively impossible to test UBI in practice: an experiment either tests something else (usually NIT) instead of UBI or tests a UBI plus an influx of money that would not normally accompany UBI, making the test unrepresentative in other important ways. Second, at best, a test examines half of the effects of UBI or NIT because no test can include the effect of taxes on net contributors to the UBI program. These problems don't mean researchers should give up; experiments can test NIT as an approximation of UBI and attempt to look at net recipients in isolation, but understanding and accounting for the biases created by these substitutions is not easy.

1   Forces Pushing Tests Toward NIT

Simulating UBI in a trial might deceptively seem simple: randomly select people and give them a UBI. But the UBI grant is not all there is to a UBI program. It requires taxes, or it will cause rampant inflation. Although everyone gets the UBI, the vast majority of people in wealthy countries also pay at least some taxes. And, although the size of UBI is the same for everyone, the net benefit individuals receive varies with the amount of taxes they pay. The net benefit is what affects their available choices, not the nominal amount of the grant. And—except in the poorer and more unequal countries—almost everyone can be expected to pay at least some taxes, so that very few people will receive a net benefit equal to the full amount of the grant, and the average net benefit might be much less than the full grant.

It is easy to give a UBI grant to a group of people. It is difficult to get the right net benefit to each of them—at least not in the *way* a true UBI system gets the net benefit to people. This difficulty arises because researchers can't levy special taxes on participants in an experiment. Researchers have at least three options for dealing with this problem.

The first option is to include in the study only people who would pay little or no taxes under the UBI program being examined. The difference between this group's gross and net benefit from the UBI will be zero or negligible. This solution can work in less wealthy, more unequal countries that have extreme inequality and a large number of very poor people who pay no taxes now and would not need to start paying taxes to finance a significant UBI. The Namibian and Indian experiments studied very impoverished villages where few, if any, of the residents would pay any taxes at all under a full-fledged UBI system.

However, in wealthy nations, very few people pay zero taxes now, and even fewer would pay no (gross) taxes under most proposed UBI schemes. Under a reasonably affordable version of UBI, people would probably have to start paying taxes from a very low income or even from the first dollar of income,[1] so that their net benefit gradually declines as income rises at a rate that will reach a reasonably affordable break-even point. The taxes don't have to be income taxes, but the tax has to fall partly on net

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[1] Anthony Atkinson, *Public Economics in Action: The Basic Income/Flat Tax Proposal* (Oxford: Clarendon Press, 1995); Karl Widerquist, "The Cost of Basic Income: Back-of-the-Envelope Calculations," *Basic Income Studies* 12, no. 2 (2017).

recipients to ensure affordability. Under such a UBI scheme, most people would enter the no-tax-paying group for no more than a few months at a time, and researchers could not predict in advance who would be most likely to remain in that group longest unless they focused on the disabled—which would defeat the purpose of testing unconditional basic income. Therefore, UBI experiments in wealthy nations simply cannot focus on people for whom the difference between gross and net benefit is zero or negligible.

The second option would be to ignore the difference between gross and net benefit, even though it is non-negligible. This option enormously exaggerates the effects of UBI. The typical net beneficiary in a reasonably-affordable-but-adequate-sized UBI is likely to live in a household that makes substantial private income and benefits by less than half the nominal amount of the UBI, depending on many specific factors about the size and method of financing of the UBI.[2] Ignoring this difference would render any observations of participants' behavior almost meaningless as a prediction of what they would do under an actual UBI system.

Furthermore, the *rate* at which participants' net benefit decreases as they make more money (or do other things that might increase their tax burden under various possible financing regimes) is likely to have an important effect on their decision-making and behavior. It simply can't be ignored if the results of the test are going to be at all useful in estimating the effects of a real UBI. Therefore, any reasonable UBI experiment has to focus on the net rather than gross benefit, but as mentioned above, researchers can't levy taxes.

The third option is to simulate new taxes by reducing participants' grant as their income goes up. But as Chap. 3 mentioned, a grant that goes down as income goes up is not a UBI; it's an NIT.

An NIT scheme can create the same after-tax distribution of income as a UBI scheme that happens to have the same marginal income tax rate, and so it is reasonable to say that NIT is a good proxy for UBI in an experiment. But, as Chap. 2 explained, NIT works differently in some important ways. The practical effects of the differences between NIT and UBI are controversial among people who study or advocate for various forms of BIG. We would ideally like to test these differences in an experiment. Instead, experiments will have to assume that these differences are small enough to use an NIT as an approximation of UBI.

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[2] "The Cost of Basic Income: Back-of-the-Envelope Calculations."

Using NIT to approximate UBI forces the experiment to employ at least a partially income-tax-financed UBI. From the 1960s to the 1990s, the USBIG discussion was dominated by the income-tax-financed version.[3] But this version is no longer central to the discussion. Many recent proposals focus on rent and resource taxes, banking reforms, wealth taxes, and so on as methods of financing UBI. Many such taxes do not fall directly on net beneficiaries of UBI, but might or might not be passed onto them through the market—once again the kind of thing we would like to test in an experiment rather than to impose on an experiment by assumption.

However, the flat income tax in an experiment has a lot of advantages. It makes the math extremely easy, and whatever type of tax is used, the amount of taxes people end up paying is likely to be heavily correlated with income, so an experiment can use the flat tax as an approximation for any other tax, hopefully without too much loss of generality.

UBI experiments will also be forced to take on the second characteristic of NIT: they will have to give the grant on a household basis rather than an individual basis. Researchers can't simply select a group of individuals at random and give them each a UBI because most of those individuals live in households and the effect of UBI on one person in a household where everybody gets a UBI is very different from the effect of a UBI on one person in a household where no one else gets one. Therefore, RCTs will have to draw households at random rather than individuals at random, and they will have to assume doing so does not affect observed behavior.

Furthermore, because most people pay taxes as households, researchers will have to treat those households as a unit, reducing every household member's UBI to simulate the increase in taxes as one member's income goes up, effectively making the UBI a household grant rather than an individual grant. For example, imagine a household where only the father receives a private income. A UBI gives a separate income to father, mother, and child, while all of the family's income taxes come out of the father's income. Suppose the father's income rises. Under a fully implemented UBI system, everyone's separate UBI grant stays the same, while the father pays more taxes. Under the experimental NIT system, the one NIT grant check they receive as a household unit goes down to simulate the new taxes on the father's larger income. The overall effect on the house-

[3] Atkinson.

hold's income as a whole is exactly the same. Does this mean that they react the same? We don't actually know. It depends on whether receiving separate UBIs affects the distribution of spending within the household—again the sort of question we'd like to learn from an experiment. Because we are forced to use an NIT as a proxy for UBI, researchers will have to assume that the family will react exactly the same whether the grant is individual or household based.

2   Testing Half the Effects

No UBI or NIT experiment can test the effects of BIG on net contributors—people who pay more taxes than they receive in UBI. No one would volunteer for a trial that substantially reduced their income, and forced participation is ethically and legally problematic. Probably all we can do is ignore the effect on net contributors. Unfortunately, for a program as large and costly as UBI, the effects on net beneficiaries can't be isolated from the effects on net contributors, causing at least four problems.

First, some people's income moves back and forth across the break-even point, changing their status from net recipient to net contributor. Leaving out the additional taxes they pay as net contributors exaggerates both the financial incentive to earn more private income and the size of this group's income over time. There is a good chance that the marginal effect of these taxes will be small enough to ignore, but once again, that is something we would ideally like to learn from an experiment.

Second, net beneficiaries interact in the market and elsewhere with net contributors. Feedback loops will be substantial because, assuming balanced-budget financing, as much money comes out of the economy from net contributors as goes into it via net beneficiaries. The same amount of money is likely to have a smaller effect on the behavior of net contributors than of net recipients. Researchers can use data from other sources to estimate the likely effects on net contributors. There is a wealth of data on how taxation affects behavior. Researchers can then use computer simulations to estimate the feedback effects. Not much of the literature on the 1970s NIT experiments involved these kinds of simulations.[4] And once again, the assumptions of the simulation are things we would ideally like to test in an experiment.

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[4] See Chap. 6.

Third, even saturation studies will be unable to examine the effects of taxes on net contributors. In a wealthy country, representative saturation sites will have substantial numbers of both net contributors and net beneficiaries. Because the study reflects the larger budgets of net recipients but ignores the smaller budgets of net contributors, it will exaggerate the effect of UBI on the economic activity of the community as a whole. This imbalance is likely to exaggerate economic activity in the community and therefore exaggerate the opportunities available to net recipients. Again, the effect might be small, but it is another assumption to impose on the experiment and another caveat to explain.

Fourth, in practical terms, the largest problem with the inability to include net contributors might not be one of biasing the results, but one of helping nonspecialists understand the meaning of the results. Researchers conducting RCTs usually deal with the inability to study the effects of net recipients in part by confining their sample to people who are very likely to be net recipients—sometimes people toward the bottom of the net recipient range. They will report results for average comparisons between the control and experimental groups drawn from that subset of the population, but citizens and policymakers will be most interested in how the UBI affects the average person nationwide. If they interpret the numbers they read as being representative of the whole of the population, their understanding will highly exaggerate UBI's effects for good or bad—even if the study was an unbiased estimate of the segment of the population it sampled.

The following chapter considers how problems discussed so far affected the 1970s experiments.