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Universal Basic Income in the United States and Advanced Countries

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Keywords

safety net, income transfer, universal basic income, labor supply

Abstract

We discuss the potential role of universal basic incomes (UBIs) in advanced countries. A feature of advanced economies that distinguishes them from developing countries is the existence of well-developed, if often incomplete, safety nets. We develop a framework for describing transfer programs that is flexible enough to encompass most existing programs as well as UBIs, and we use this framework to compare various UBIs to the existing constellation of programs in the United States. A UBI would direct much larger shares of transfers to childless, nonelderly, nondisabled households than existing programs, and much more to middle-income rather than poor households. A UBI large enough to increase transfers to low-income families would be enormously expensive. We review the labor supply literature for evidence on the likely impacts of a UBI. We argue that the ongoing UBI pilot studies will do little to resolve the major outstanding questions.

1. INTRODUCTION

Universal basic income (UBI) proposals are getting a lot of attention in high-income countries. A wide range of proponents, from Charles Murray, a political scientist and scholar at the American Enterprise Institute, to Andy Stern, former president of the Service Employees International Union, have backed the idea. We count six recent, high-profile trade books—including those by Murray and Stern—arguing for various forms of UBI as solutions to the problems faced by first-world economies (Murray 2016, Stern 2016, Van Parijs & Vanderborght 2017, Hughes 2018, Lowrey 2018, Yang 2018). Using a metric of mentions in *New York Times* articles, "universal basic income" appears 30 times in 2017 and nearly as many in the first six months of 2018. The term never appeared before 2014; even the more expansive search term of "basic income" averaged only two uses per year from 1945 to 2014 (**Figure 1**).[1]

Attention may be running ahead of actual policy development: There is little agreement on a definition of what exactly a UBI is. Moreover, basic questions remain unresolved concerning the specific problems the program is meant to solve, how the program relates and compares to other existing transfer programs, and the key research questions that need to be answered.

Our article attempts to fill this gap. We comprehensively examine the potential role of UBIs in advanced countries.[2] We take three features to define a UBI:

1. It provides a sufficiently generous cash benefit to live on, without other earnings.
2. It does not phase out or phases out only slowly as earnings rise.
3. It is available to a large proportion of the population, rather than being targeted to a particular subset (e.g., single mothers).

As we discuss below, many proposals and programs that use the name UBI depart from this canonical structure in important ways. Indeed, some authors would disagree with our definition—for example, Van Parijs & Vanderborght (2017) and Banerjee et al. (2019) would consider small transfers that meet criteria 2 and 3 but not 1 to be UBIs.

We begin in Section 2 by discussing a range of problems for which a UBI might be seen as a solution. One commonly cited reason to adopt a UBI is the combination of labor-displacing technological change—journalist Annie Lowrey (2018) calls this "the robot apocalypse"—and rising inequality and wage stagnation. Alternatively, a UBI might be seen as a response to perceived inadequacies—ineffectiveness, inefficiency, unfairness, contingency, or insufficiency—of the current social safety net. These are quite different motivations, with important implications for the prospects of a program that could represent a substantial increase in the generosity (and cost) of transfer payments relative to existing programs.

In Section 3 we develop a framework for comparing a wide range of transfer programs, and we use it to place the UBI within the context of the canonical income support programs routinely provided by advanced countries. Our framework is simple but general, using six parameters to nest a wide range of transfer programs including cash welfare, in-work tax-based assistance, child allowances, Social Security retirement, negative income taxes (NITs), and UBIs. We use this framework to discuss several possible interpretations of the terms "universal" and "basic income." We also discuss the various UBIs in proposal or pilot form and how they compare to a canonical UBI.

[1]The recent interest recalls discussions in the 1960s and 1970s about proposals for demogrants, negative income taxes, social dividends, and other UBI-like programs (see, e.g., Friedman 1962, Moffitt 2003a, Garfinkel et al. 2006, Sloman 2016). These discussions are reviewed in part by Nichols & Rothstein (2016) and Ventry (2000). We discuss negative income taxes extensively below.

[2]There is also an active discussion about UBIs in poor countries, where the issues and existing infrastructure are quite different. Banerjee et al. (2019) and Hanna & Olken (2018) discuss UBIs in that context.

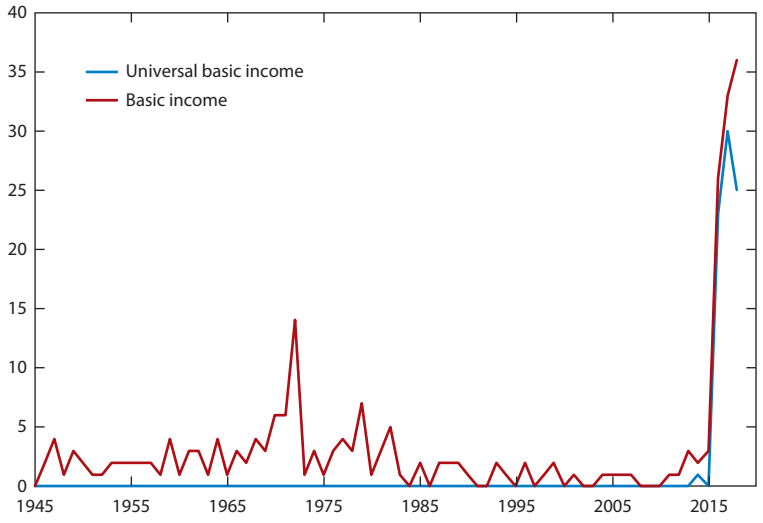


Figure 1

Growing interest in universal basic incomes as evidenced in newspaper usage, showing annual uses of the terms "universal basic income" and "basic income" in the *New York Times*.

In Section 4, we discuss the distributional implications of a UBI. Focusing on the United States, we explore the distribution of transfers received under current law. A large share of current transfer spending goes to specific populations, particularly families with children, the elderly, and the disabled, and eligibility is often heavily means tested. A UBI would substantially smooth out the currently uneven distribution, with dramatic distributional effects. If a UBI of the scale often contemplated were introduced on top of the existing transfer system, it would represent a very large downward redistribution of income. In contrast, a UBI that replaced, rather than supplemented, current programs would be less targeted, providing much less assistance to the lowest-income families. Compared to the existing combination of transfer programs, a canonical UBI would also direct a much larger share of funds to younger, nondisabled workers and to families without children (with smaller shares going to the elderly, disabled, and families with children).

In Section 4, and throughout the article, we embed our discussion in the US program ecosystem. While it is necessary to adopt a particular setting to provide the needed quantitative analysis, the main conclusions of the article are qualitative and will apply in all advanced countries. It is worth pointing out, however, that the United States provides much less generous income transfers, with a much stronger focus on work, than do most other developed countries. A UBI would thus be a larger change, both philosophically and in terms of the distribution of funds, in the United States than elsewhere.

In Section 4 we also discuss the cost of a UBI, again in the US context. A truly universal UBI would be enormously expensive. The kinds of UBIs often discussed would cost nearly double the current total spending on the "big three" programs (Social Security, Medicare, and Medicaid). Moreover, each of these programs would likely be necessary even if a UBI were in place, as each addresses needs that would not be well served by a uniform cash transfer. Expenditures on other existing programs sum up to only a small fraction of the cost of a meaningful UBI. This suggests that a full-scale UBI would require substantial increases in government revenue. The impacts of whatever taxes are imposed to generate this revenue are likely of first-order importance in evaluating the impact of a UBI. [This point is also made by Hanna & Olken (2018).] This consideration

suggests that a UBI is less novel than it initially appears, and is closely related both to the NIT (Friedman 1962) and to the longstanding literature on optimal income taxes (Mirrlees 1971, Saez 2002).

In Section 5, we return to our transfer program framework and use it to discuss the incentive effects of the UBI. We discuss the incentives around labor supply, human capital accumulation, and entrepreneurship as well as potential impacts on family and child well-being, health, and life satisfaction. UBIs would represent a substantial reversal of the pro-work goals of recent US income support policy. We also discuss how UBIs might affect stigma, a prominent (and arguably intended; see Moffitt 1983) feature of many existing transfer programs, as well as the potential general equilibrium effects of the program.

In Section 6, we consider the UBI research agenda. We discuss what we know from research on the Earned Income Tax Credit (EITC), the 1970s Income Maintenance Experiments, and cash welfare programs, as well as from studies of UBI-like policies such as the Alaska Permanent Fund and Indian tribe payments. Finally, we consider elasticities from the broader literature on labor supply. We argue that all of these are useful for evaluating the potential impact of a UBI, and that estimates of the key parameters from the literature may be more useful than impact estimates from UBI experiments for predicting the effects of an implemented UBI program. Nevertheless, there are clear limits of the existing evidence, and in Section 7 we conclude by outlining the future UBI research agenda.

2. DEFINE THE PROBLEM: WHAT PROBLEM IS THE UBI TRYING TO SOLVE?

One motivation commonly offered for adopting a UBI is that the labor market is not delivering, or is not expected to deliver, adequate growth of wages and earnings for the lower portion of the income distribution. This is sometimes presented as the "robots are coming" argument: We can expect, the story goes, that robots will gradually take over a large share of the jobs currently done by people, leaving severe job shortages and declining wages in the jobs that remain. In principle, the robots should increase productivity and thus dramatically increase global real incomes (Acemoglu & Restrepo 2018). The concern, however, is that an increasing share of income will go to a small elite (e.g., the owners of the robot patents), leaving everyone else impoverished. Thus, in the automated world, the primary economic problem will be figuring out income (re)distribution schemes that enable the vast group of displaced workers to maintain their quality of life and subsistence (and also perhaps engage in education, training, and other activities to promote reentry into the workforce).

Poor labor market outcomes, especially for workers in the bottom half of the distribution, are not a futuristic phenomenon. Wages and earnings of lower-skilled workers, particularly men, have stagnated over several decades (Autor 2014). Wage inequality within education groups has also grown. Women's real wages have not declined as dramatically, but they similarly show evident disparities in earnings growth across education levels.[3]

The lack of real growth in wages has translated to earnings and income stagnation through much of the distribution. Real median money income in the United States increased less than 1% between 2000 and 2016 (Semega et al. 2017). Based on a much broader measure of national income, the pretax income of the bottom half of the distribution grew by only 1% between 1980 and 2014, compared to 42% in the next four deciles and 121% in the top decile (Piketty et al. 2018).

[3] In the five years following 2012, inflation-adjusted wages have started to increase, showing real gains for the lowest quintile of workers (Shambaugh et al. 2017).

The share of posttax national income going to the bottom half of the population fell from a little over 25% in 1980 to less than 20% in 2014.

Job opportunities have also declined, particularly since 2000, when employment growth began to slow. Between 2000 and 2016, the fraction of individuals aged 25 to 54 working or looking for work fell more than 5 percentage points for men and 3 percentage points for women. This decline represents a continuation of trends in male labor force participation since the 1960s, though the decline for women is more recent (Black et al. 2017) and stands in stark contrast to the increases in female participation across most other developed countries (Counc. Econ. Advis. 2015).

A large literature explores the causes of these trends in inequality and wage stagnation. Technological change is one common explanation (e.g., Acemoglu & Autor 2011); others include trade and globalization (e.g., Autor 2014, Autor et al. 2016), changes in labor market institutions (e.g., a fall in the real value of the minimum wage; Lee 1999), declines in worker mobility (both geographic and job-to-job mobility; Molloy et al. 2016), and rising monopsony power (Azar et al. 2017).

Regardless of the root cause, it is clear that less-skilled workers are experiencing stagnation in wages and job opportunities. In that sense, the robot apocalypse scenario is already here. A UBI can be seen as a response. It would transfer a portion of national income from capital owners to workers (and nonworkers), allowing them to live better lives than low market wages can support, and it could even support market equilibria with higher wages.

A distinct argument for a UBI is that it could replace the current patchwork of transfer programs in the United States, thereby avoiding the high cumulative marginal tax rates implicit in many existing poverty programs, such as cash welfare (Murray 2016). These high rates are claimed to create welfare traps, keeping people on welfare who would be better off in paid jobs.[4] According to some, a UBI would radically simplify the transfer system, reducing perverse incentives while still ensuring a minimum level of income for those who are truly unable to work.

This argument stands in contrast to the robot apocalypse argument: If a UBI is intended to address the disappearance of jobs due to technological change, the labor supply effects are not first order, and indeed one might hope for declines in labor supply as workers are freed to choose nonemployment over poorly compensated work. However, a UBI intended to avoid welfare traps has an explicit goal of increasing labor supply. We return to this below.

A third argument for a UBI is, like the second, grounded in the inadequacies of our current safety net, but it comes more from concern with insufficient benefits. There are many holes in our current welfare system, particularly since the 1990s welfare reform, with many low-income families (particularly, but not exclusively, those without children) receiving no benefits at all or only very minimal benefits. For some advocates, a UBI represents a more comprehensive and politically defensible safety net, one that reaches all of the needy and not just a demographically targeted subset.[5] They argue that a more universalist approach would also reduce the stigma of program participation, simplify cumbersome application processes, and possibly move the conversation away from assessments of the deservingness of the poor.

More philosophically inclined advocates (e.g., Van Parijs & Vanderborght 2017) emphasize the related value of a UBI in increasing human freedom, a difficult concept to express in terms of

[4]In practice, with large negative tax rates through the EITC, and with the decline in cash welfare and the rationing of housing benefits, cumulative marginal tax rates are actually negative at low incomes and positive but modest in magnitude in program phase-out ranges (Kosar & Moffitt 2017).

[5]A related argument, more relevant in developing than in developed countries, is that existing transfers are poorly targeted due to the lack of adequate proxies for family need (Hanna & Olken 2018). Our analyses below incorporate distributional improvements under a UBI that derive from imperfect targeting of existing programs.

budget constraints but nevertheless an important goal. A UBI could conceivably relieve the web of stigma (Moffitt 1983), ordeals (Nichols & Zeckhauser 1982), and other costly and demeaning aspects of low-income life (Mullainathan & Shafir 2013, Morduch & Schneider 2017) in developed countries, allowing freer decisions (e.g., about careers) that feel like choices rather than necessities.

3. WHAT IS A UBI?

A number of different transfers, with quite different characteristics, have been described as UBIs. There are two important terms to define: "universal" and "basic income."

We begin with the second. Generally, a "basic income" is large enough to meet a family's basic needs all on its own, without earnings or other sources of income.[6] This is often operationalized as providing assistance to ensure family income is at or above the poverty level. Some also interpret "basic" to indicate a base that might be supplemented by other income, implying that the transfer is not reduced as earnings rise, at least over some range.

The first term, "universal," is more ambiguous. In our reading, universal refers to a program that is

- available to everyone, without targeting based on family structure, presence of children, age, or disability status;
- provided to those without earned income, and even without any effort to find work; and
- provided to those with relatively high earned income, not only those in deep poverty.

An idealized UBI might have all three of these universality features, but many proposals do not.

A fully implemented program with these universal and basic income elements would be extremely expensive. A universal payment of $12,000 per year to each US resident over age 18 would cost roughly $3 trillion per year.[7] This is about 75% of current total federal expenditures, including all on- and off-budget items, in 2017. (If those over 65 were excluded, the cost would fall by about one-fifth.) Thus, implementing this UBI without cuts to other programs would require nearly doubling federal tax revenues; even eliminating all existing transfer programs—about half of federal expenditures—would make only a dent in the cost. To bring this cost down, most UBI proposals and pilots in the developed world fail to meet the conditions of the canonical program in some way, either by reducing the payment below a subsistence level or by limiting eligibility based on income or other family characteristics.

3.1. A Framework for Comparing Transfers

To understand the potential impact of a UBI, it is helpful to explore how it would compare to existing transfer programs. Some of these programs have UBI-like characteristics, while others quite clearly contrast with a UBI in their goals and design.

We propose a simple framework to capture many of the design differences among existing and proposed transfer programs. Most transfer programs in advanced countries can be approximated as

$$B(X,Y) = E(X)^{*} \min\{G + SY, M, \max[M - T(Y - P), 0]\},$$

[6]Van Parijs & Vanderborght (2017) would call even a small amount a basic income. Sometimes an amount high enough to live on is called a "full basic income," with smaller amounts called "partial basic incomes" (see **https://basicincome.org/basic-income/**).

[7]This would bring a nonelderly adult living alone nearly to the poverty line ($12,752 in 2017). The combined payments to married couples would put them somewhat above the poverty line, while single-parent families would remain below it.

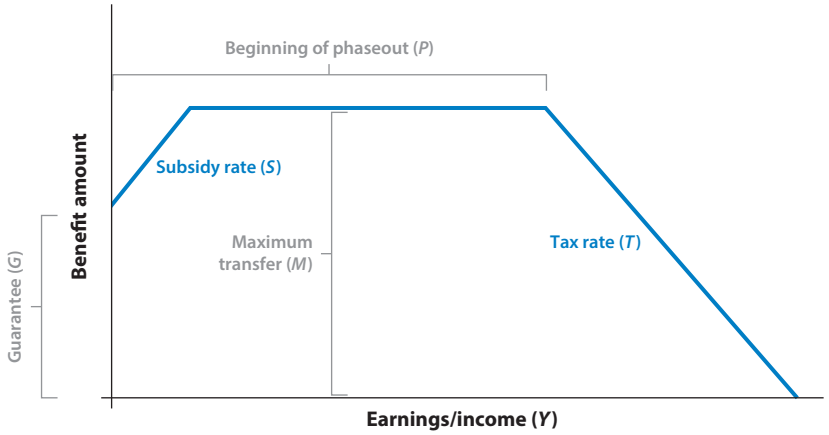


Figure 2

An illustrative, hypothetical transfer program.

where B is the transfer (or benefit) for a family with characteristics X and earnings or income Y, and the parameters are as follows:

- G (guarantee): the transfer to a family with zero earnings;
- S (subsidy rate): the rate at which the transfer grows as earnings rise above zero;
- M (maximum transfer): the maximum transfer, reached at earnings of $(M–G)/S$;
- P (phaseout): the highest earnings a family could have and still receive M;
- T (tax rate): the rate at which the transfer is reduced for earnings above P, until it reaches zero when earnings equal $P + M/T$; and
- E (eligibility): eligibility for the program based on factors other than earnings/income, often referred to as categorical eligibility; we can think of it as a function $E(X)$ mapping (nonearnings) characteristics X to an indicator for eligibility.

Figure 2 shows a generic transfer program in which all of the first five parameters are nontrivial (G, S, M, and T are nonzero, and P is finite). Here, a family with zero earnings receives a benefit G. The benefit then increases with earnings at subsidy rate S until reaching the maximum benefit M. There is a flat portion with constant benefit M, followed by a phase-out portion for income above P at rate T.

No single program in the United States has a schedule like this, though Dube (2018) proposes one. However, the basic features of most existing programs, including traditional cash welfare, in-work tax benefits, retirement programs, and child allowances, can be captured by varying the six parameters. (Of course, our piecewise linear framework cannot duplicate a more nonlinear schedule, but it can be seen as an approximation to it.) This framework, which can also capture both NITs and UBIs, clarifies what is new about the UBI that is not already part of a typical developed country's social safety net.

3.2. Existing Transfer Programs

Below, we use our framework to characterize six types of transfer programs. Parameters for several illustrative programs are presented in **Table 1**. (We present a more comprehensive list of programs in **Table 3** below.) We follow that with a discussion of how the canonical UBI compares to other income transfers and how proposed UBIs compare to the program in its purest form.

Table 1 Parameters of selected transfer programs

Parameters	Cash welfare (e.g., AFDC)	In-work benefits (e.g., EITC)	Disability benefits (e.g., SSI)	Retirement (e.g., Social Security)	Child allowance (e.g., Shaefer et al. 2018)	NIT (canonical)	UBI (canonical)
Guarantee (*G*)	$7,285 per year	$0	$8,820 per year	$16,392 per year	$3,000 per year	$5,000 per year	$12,000 per year
Subsidy rate (*S*)	0%	40%	0%	0%	0%	0%	0%
Maximum transfer (*M*)	$7,285 per year	$5,616 per year	$8,820 per year	$16,392 per year	$3,000 per year	$5,000 per year	$12,000 per year
Beginning of phaseout of transfer (*P*)	$90 per month	$18,340 per year	$85 per month	$0	$0	$0	Infinite
Tax rate in phaseout (*T*)	100%	21%	50%	0%	0%	50%	0%
Eligibility restrictions (*E*)	Single parents	Must be 25–64; there is only a small credit for those without children	Documented disability or age 65+	Over 62 with sufficient work history	All families with children	All families	All adults

Several programs have additional eligibility criteria (e.g., asset limits) not shown here. AFDC benefits are based on the 1996 schedule for a single parent with two children in the median state and are in 2017 US dollars. *P* and *T* reflect the policy after 12 months of work; earlier, *P* is higher and *T* is lower. EITC benefits are for an unmarried parent with two children in 2017 and reflect only the federal credit. The SSI amount is for an individual without dependents in 2017. Social Security parameters are for the average retirement amount in 2018 and ignore the earnings test, which reduces current benefits but recycles them into higher later benefits. Abbreviations: AFDC, Aid to Families with Dependent Children; EITC, Earned Income Tax Credit; NIT, negative income tax; SSI, Supplemental Security Income; UBI, universal basic income.

3.2.1. In-work programs. In-work programs, the best known of which is the EITC in the United States, are designed to transfer resources to lower-income individuals while encouraging work. Typically, these programs are phased in, reach a maximum, and then are phased out. Thus, the parameters M, S, P, and T are nonzero; $G = 0$, as nonworkers are not eligible for the transfer.

Under the EITC, eligibility (E) is close to universal among families with children, although the generosity (S, M, and P in particular) varies by marital status and number of children. Childless workers are eligible for a very small credit, with eligibility limited to those between 25 and 64 years of age. In 2017, for a family with two children, the subsidy rate is substantial, $S = 40\%$; the maximum benefit M is over $5,500 per year; the phase-out point P is quite high, close to $20,000 in annual earnings; and the tax rate on earnings above that point is about $T = 21\%$. As a result, two-child families with earnings as high as $45,000 (or $55,000 for married-couple families) can get positive EITC transfers. As we will see, this is a much higher break-even point than under even the most generous welfare programs.

The Child Tax Credit (CTC) is an in-work credit with an aggregate cost similar to that of the EITC but with much less income targeting (see the discussion in Hoynes & Rothstein 2017): $S = 15\%$ (and this only applies to earnings above $3,000), $M = \$1{,}000$ per child, $P = \$75{,}000$ ($110,000 for married couples), and $T = 5\%$. As with the EITC, G equals 0. The 2017 tax reform bill raised M to $2,000 per child and P to $200,000 ($400,000 for married couples). The Working Families Tax Relief Act, introduced in the United States Senate in April 2019, would modify the CTC to set $G = M$ and $S = 0$, while lowering P somewhat.

3.2.2. Cash welfare. Cash welfare programs provide an income floor ($G > 0$, $S = 0$, and $M = G$). It is common to have zero or low earnings disregards (P) and high tax rates (T) that ensure that benefits fully phase out at relatively low earnings levels. In the United States (though not in all European countries), cash welfare programs have tightly restricted eligibility and are mainly limited to single mothers, the disabled, and the elderly.

As an example of a canonical cash welfare program, **Table 1** includes the parameters for the US Aid to Families with Dependent Children (AFDC) program, which was in place until 1996. The benefits were targeted on households with children headed by single parents (E). The guaranteed income G varied by state, and for a family of three ranged from $190 per month in Mississippi to $1,100 per month in Suffolk County, NY (in 2017 dollars); the median state set $G = \$600$, or about 36% of the federal poverty line at the time (Comm. Ways Means, US House Represent. 1996). Families could only earn a small amount ($P = \$190$ per month was a typical figure) before benefits were phased out.[8] Finally, the tax rate T was very large, at least 66%, with $T = 100\%$ for most of the program history. The combination of the low G and P and very high T implies complete phaseout of transfers at very low earnings levels—around $8,600 per year for a family of three in the median state (in 2017 dollars).

In 1996, following federal welfare reform legislation, AFDC was replaced by Temporary Assistance to Needy Families (TANF). All states were required to impose strict work requirements and lifetime limits for program receipt (Moffitt 2003b). In our framework, this corresponds to further tightening of E. States were also given flexibility regarding the other parameters. They varied in how much they tightened E, and some states attempted to make it possible to combine work with TANF, at least temporarily, via increased P and reduced T.

Other similarly structured programs include General Assistance (GA) programs; small payments for indigent, nondisabled adults without children; and the Supplemental Nutrition

[8] P varied depending on how many months the individual had earned income. This figure applied after eight consecutive months of earnings.

Assistance Program (SNAP, or food stamps). GA programs have very low M. SNAP phases out relatively slowly ($T = 30\%$), and eligibility extends to 130% of the poverty line.

3.2.3. Cash welfare for individuals unable to work. Most countries have separate cash welfare programs for those deemed medically unable to work, such as the disabled or low-income elderly. These programs provide an income floor and typically do not attempt to encourage work; therefore, we have $G > 0$, $S = 0$, and $M = G$. Many explicitly limit benefits to those who do not work ($P = 0$, $T = \infty$), while others phase out rapidly.

In the United States, Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI) provide cash welfare to the disabled (and, for SSI, the elderly). SSI is more generous than AFDC/TANF: In 2017 the federal guarantee was $G = \$735$ per month for single individuals or \$1,103 per month for married couples. The program accommodates some earned income, with $T = 50\%$ on earned income above $P = \$85$ per month. SSDI is based on past earnings and restricted to those deemed medically unable to work, so we have $G > 0$, $S = 0$, $M = G$, $P = 0$, and $\mathrm{T} = \infty$ (though a trial work period allows for short-term work with $P = \$850$ per month). Average benefits are \$1,063 per month.

3.2.4. Public retirement benefits. Public retirement programs can also be presented in this framework. Eligibility (E) for Social Security retirement benefits is achieved by satisfying rules for required years of work and reaching age 62. Benefits are available regardless of work status ($G > 0$), and in the most flexible form, they have no phase in ($S = 0$, $M = G$) and no phaseout ($P = \infty$, $T = 0$). As with SSDI, benefit levels (G) depend on earnings history; they average about \$1,368 per month.

3.2.5. Child allowance. A child allowance provides an income floor ($G > 0, S = 0, M = G$) that is typically phased out at higher incomes and more slowly than traditional cash welfare. By design, eligibility is limited to families with children.

In 2016, Canada implemented a generous child allowance called the Canada Child Benefit. The guarantee is $G = \$4{,}800$ per year [all figures in purchasing power parity (PPP)-adjusted 2017 US dollars] per child aged 0–6 and $G = \$4{,}050$ per year per child aged 6–17. Phaseout begins at $P = \$22{,}500$, with $T = 7\%$ for one-child families and 13.5% for two-child families; the rates increase at incomes above about \$50,000. Thus, a family with one child aged 3 and another aged 7 would have a $G = \$8{,}850$ per year that would be phased out between annual incomes of \$22,500 and \$75,000. Recently, Shaefer et al. (2018) and Bitler et al. (2018) proposed child allowances for the United States with no phaseout.

3.2.6. Negative income tax. An NIT in its pure form is advanced as a single unified transfer and tax system. In its simplest form, an NIT with a linear tax schedule provides for an income floor ($G > 0, S = 0, M = G$) that is taxed away at a rate T with any positive earnings ($P = 0$). The marginal tax rate remains T even after income rises to the point where the benefit is entirely taxed away (at $Y = P + M/T$); individuals with incomes above that point are net taxpayers, and they help fund transfers to lower-income recipients. This NIT is equivalent, in an accounting sense, to a UBI with a flat tax (Kesselman & Garfinkel 1978, Atkinson 1995).

Friedman (1962) famously supported an NIT in the United States (see also Lampman 1965, 1969; Tobin et al. 1967; Friedman & Friedman 1980; Moffitt 2003a). However, the payment of benefits to nonworkers was highly controversial. The outcome of the debate was instead the introduction of the EITC, with $G = 0$ (see the discussion in Nichols & Rothstein 2016). Current transfer programs have more, rather than fewer, work requirements than the pre-NIT-debate policies.

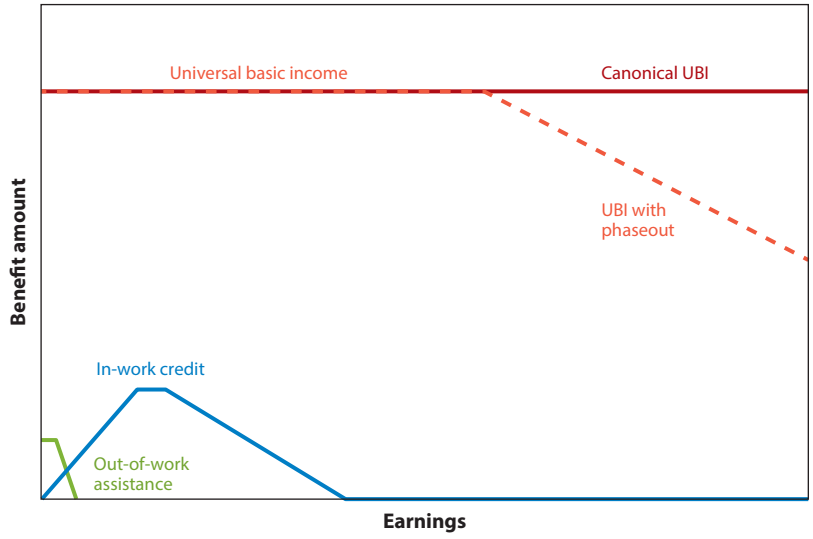


Figure 3

Comparing a universal basic income (UBI) to other existing programs.

3.3. The UBI as a Transfer Program

We defined a UBI as a transfer that pays a sufficient benefit to meet basic needs without earned income, has broad eligibility, and is available both to nonworkers and to those with relatively high earned income. In our framework, this corresponds to $G > 0$, $S = 0$, $M = G$, a high (or even infinite) P, low T, and minimal restrictions on eligibility (E).

Figure 3 compares the schedules for a canonical UBI, the EITC, and cash welfare (treating each in isolation and portraying each roughly to scale).[9] It shows two of the distinguishing features of the UBI: a high income floor (G) and universal income coverage ($P = \infty$, $T = 0$). (The third, broad eligibility, is not shown here.) Among the policies listed above, Social Security comes closest to this ideal, though only for the elderly. The child allowance is also very similar in structure to a UBI, though interestingly the supporters of these two types of proposals exhibit little overlap in practice.

One can also draw comparisons to other programs. The UBI is similar to the EITC and CTC in their relatively high reach in the income distribution and near-universality, but differs in paying benefits even to non-workers and, in its pure form, in reaching even the highest-income families. **Figure 3** also shows a modified UBI that phases out at high incomes, as do the EITC and CTC (at very different points). The phased-out UBI is qualitatively but not quantitatively similar to cash welfare. Given general hostility to welfare recipients in the United States, and in particular to the idea that transfers should go to those who neither work nor undertake other worthy activities (e.g., job search, education), it is difficult to imagine a welfare program being scaled up in this way.

Table 2 lists several UBI pilots and proposals, with their associated parameters. Most do not meet the canonical UBI structure, forsaking some combination of high G, broad E, and/or high P to reduce costs. For example, Murray (2016) proposes a phaseout at incomes above

[9]**Figure 3** is not drawn to represent any specific proposal, but instead to highlight the differences across the different types of transfers. Below we present distributional estimates using current policies and the Current Population Survey.

Table 2 UBI proposals and pilots

	Proposals			Pilots			
	Murray (2016)	Stern (2016)	Switzerland	Stockton	Finland	Ontario	Y Combinator
Guarantee (G)	$10,000	$12,000	$31,938	$6,000	$6,000	$9,848	$12,000
Subsidy rate (S)	0%	0%	0%	0%	0%	0%	0%
Maximum transfer (M)	$10,000	$12,000	$31,938	$6,000	$6,000	$9,848	$12,000
Beginning of phaseout of transfer (P)	$25,000	Infinite	Infinite	Infinite	Infinite	$0	Area median income
Tax rate in phaseout (T)	20%	0%	0%	0%	0%	50%	Infinite
Eligibility restrictions (E)	US citizen, ages 21+	Ages 18+	None	None	Ages 25–58; receipt of unemployment payments prior to pilot	Ages 18–64 with low income (<$48,000 per year for couples)	Ages 21–40

This table does not reflect all complexities of proposals and pilots. For example, under the Murray proposal, the transfer would phase out only to $5,000 per year per adult. Under the Stern proposal, the program differs for seniors. Swiss proposal parameters are based on suggestions advanced by supporters of the referendum and apply to a family with two adults and one child. Ontario parameters are for a couple. Non-US programs are converted to US dollars using purchasing power parity.

$P = \$25{,}000$, using a tax rate of $T = 20\%$. (Murray would allow only half of the benefit to phase out; the remainder would be paid regardless of income.) The UBI experiment by the Silicon Valley company Y Combinator Research (discussed at greater length below) limits eligibility to those between ages 21 and 40 and to households with incomes below their county's median income.

Our framework considers only payments from the government to individuals, not the revenues needed to finance them. Given the first-order issue of cost, a full understanding of the UBI's distributional effects must include the taxes needed to pay for it. A simple assumption is that the UBI might be paid for by a linear income tax on income above some threshold. The combined program of a UBI with the linear tax would involve a binding phase-out point P, a positive tax rate T above that, and the continuation of that tax rate even after the transfer has gone to zero (at pretransfer income $P + M/T$). The net effect would therefore be negative for high-income families.[10] Among the transfers described above, only the NIT has this tax feature built in.

A linear tax is of course a simplification. Given rising inequality and the motivation of offsetting the increasing income shares of capital owners, one might prefer to finance a UBI through a more progressive tax. This would lift the effective break-even point, with higher taxes at the highest incomes.

It is not clear, however, whether one should think of the combined program or of the separate impacts of the transfer and the tax components. Separating the two may carry political benefits, by allowing even high-income taxpayers to believe that they are benefiting from the UBI and by making the benefits portion universal, thereby promoting a sense of social inclusion. Nevertheless, insofar as labor supply or other economic impacts are an important objective of the policy, it is presumably the effects of the combined transfer and tax changes that matter, not those of the transfer alone.

[10]For example, Rhodes (2017, p. 13) notes that "although a universal basic income would be distributed to everyone regardless of income level, the benefit received by higher-income individuals would be paid back in taxes in order to fund the program."

4. DISTRIBUTIONAL AND COST COMPARISONS OF UBI TO CURRENT PROGRAMS

Here, we discuss the distributional implications of a UBI relative to the existing US transfer system. To illustrate the demographic and income targeting in the current transfer system, we present comparisons across family types and across deciles of the income and earnings distribution.

Our distributional calculations use data from the 2017 Current Population Survey (CPS) Annual Social and Economic Supplement, representing the civilian noninstitutionalized US population (US Census Bur. 2017). The CPS includes measures of individual-level 2016 receipt and amounts of most major transfer programs.[11] We group programs into four aggregates: means-tested (welfare) programs, encompassing TANF and SNAP; disability programs (SSI and SSDI); Social Security retirement; and in-work tax credits (EITC and CTC). Within the welfare category, the bulk of spending (see **Table 3** below) comes from SNAP; within the tax credits, the EITC and CTC are roughly equal in size. Importantly, we exclude all in-kind programs other than SNAP, most notably public health insurance. We return to this later.

To account for economies of scale in housing and other costs, we sum income from each program across all members of the household, then divide by the OECD equivalence scale (which counts additional household members older and younger than 14 as costing 50% and 30% as much, respectively, as does the first adult). We refer to the result as equivalized transfers per person.

We divide households into four mutually exclusive demographic groups. The first is households with children, including any household with at least one person under 18. Next, if there is anyone 62 or older, but no one under 18, we assign the household to the category of households with elderly.[12] Finally, households without children or elderly are separated into those with and without disabled individuals.

Figure 4 shows average transfers across the four family type groups along with the population counts represented by each group. The figure shows tremendous variation in the amount of (non-health) government transfers across groups, with the average elderly household receiving $12,600 per equivalized person, disabled households receiving $8,000, and nonelderly, nondisabled households with and without children receiving $2,200 and $500, respectively.

To illustrate the distribution of benefits across the income distribution, we consider two income classifications. First, we use after tax and transfer (ATT) income.[13] Second, because ATT income is in part a function of the transfer system, we alternatively use pretax earned income. Earned income is a more useful proxy for family resources for nonelderly, nondisabled households, so we focus on them in our analysis of this measure. We use the equivalence scale discussed above to compare ATT income and earnings per equivalized person across households of different sizes.

Figure 5 has four panels, one for each of our demographic groups. In each panel, households are divided into deciles by equivalized ATT income per person, and we show mean transfers (per person, equivalized) by program within income decile.[14] Because mean transfers are much higher for elderly and disabled households than for others, we use different *y*-axis scales for these groups.

[11] We simulate the EITC and CTC using NBER TAXSIM (see **http://users.nber.org/~taxsim/**), but we rely on CPS responses for other transfers. In the CPS, the aggregate amount of transfer income that households report receiving is significantly less than the administrative totals (Wheaton 2008, Meyer et al. 2009). We do not adjust for underreporting.

[12] We use age 62 because many claim Social Security retirement benefits as soon as permitted rather than waiting until the so-called normal retirement age.

[13] ATT income equals total money income plus near-cash transfers (SNAP, school meals), less taxes owed (which may be negative for families receiving the EITC).

[14] **Supplemental Figure 1** shows the distribution of families of each type across deciles.

Supplemental Material >

Table 3 Number of recipients and total expenditures from selected transfer programs and potential UBIs

Program	Eligibility (*E*)	Total expenditures (billions)	Number of recipients (millions)
Cash welfare			
TANF	Single parent, work requirements	$7.4	2.8
SSI/elderly	Ages 65+	$5.4	1.2
SSI/children	Under age 18, blind or disabled	$9.3	1.2
In-kind, near-cash welfare			
SNAP	Near universal	$63.6	42.1
School lunch	K–12 children	$12.3	22.0
School breakfast	K–12 children	$4.5	12.5
WIC	Pregnant and postnatal women and children <5	$5.6	7.3
Section 8 and public housing	Universal, but rationed	$26.9	9.4
In-work tax credits			
EITC	Earners, ages 25–64 or with children	$69.8	69.7
CTC	Families with children with earned income	$52.8	105.9
Disability programs			
SSDI	Documented work limiting disability	$142.7	10.4
SSI/disability	Documented work limiting disability	$39.6	5.9
Social insurance			
Social Security retirement	Retirement age, with work history	$680.2	45.5
Social Security survivors	Survivors of deceased with work history	$118.3	6.0
Unemployment insurance	Work history, actively looking for work	$29.9	5.7
Health insurance			
Medicare	Ages 65+ or disabled	$689	57.0
Medicaid	Low income	$368	82.2
CHIP	Children	$14.3	9.2
Total cost			
All programs		$2,340	
All programs, excluding health		$1,268	
All programs, excluding health and Social Security retirement		$588	
Potential UBIs			
Canonical	Ages 18+	$3,025	252.1
Phased out around median income	Ages 18+	$1,512	126.0
Age limited	Ages 18–64	$2,414	201.2

TANF recipients and expenditures taken from the US Department of Health and Human Services, Administration for Children and Families program reports for 2016; SSI information from the Social Security Administration's (SSA) 2017 Annual Report of the Supplemental Security Income Program; SNAP and WIC receipt and expenditure and school meal receipt data from the USDA Food and Nutrition Service (FNS) program reports for 2017; school meal enrollment data from the FNS Congressional Justification for 2018; EITC and CTC enrollment and expenditure data from the Internal Revenue Service Statistics of Income 2016 preliminary data release; Social Security enrollment and expenditures from the SSA beneficiary statistics and payment summary tables for 2017; Medicare enrollment data from the Centers for Medicare and Medicaid Services for 2016, and expenditure data from the Congressional Budget Office's (CBO) June 2017 baseline; Medicaid and CHIP enrollment from MACPAC's Medicaid and CHIP Data Book for 2016; Medicaid expenditure data (both federal and state shares) from Kaiser Family Foundation; and CHIP expenditure from CBO's 2017 baseline.
Abbreviations: CHIP, Children's Health Insurance Program; CTC, Child Tax Credit; EITC, Earned Income Tax Credit; SNAP, Supplemental Nutrition Assistance Program; SSDI, Social Security Disability Insurance; SSI, Supplemental Security Income; TANF, Temporary Assistance for Needy Families; UBI, universal basic income; WIC, Women, Infants, and Children.

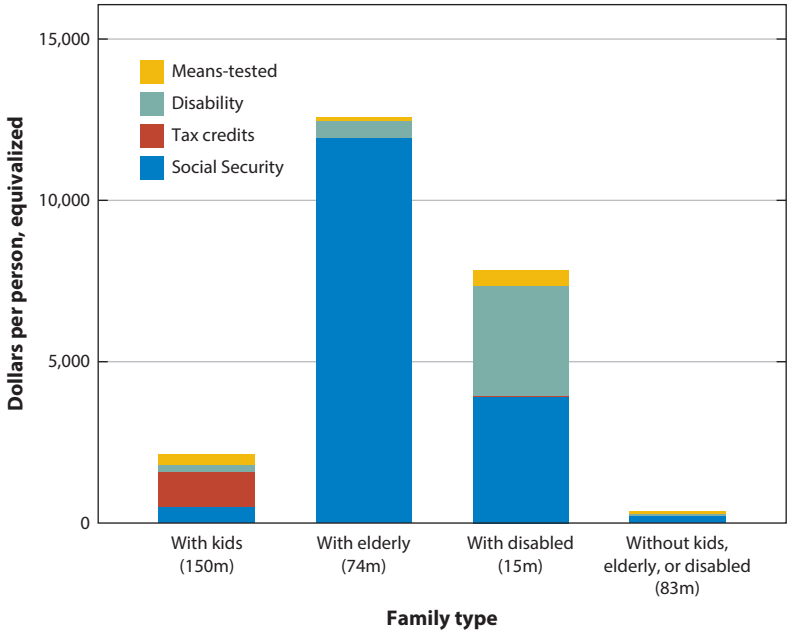


Figure 4

Average household transfers by family type and program. Data from authors' tabulations of the 2017 Current Population Survey Annual Social and Economic Supplement (US Census Bur. 2017).

Transfers to the elderly and the disabled are not tightly concentrated in the lower deciles, reflecting broader income eligibility for Social Security and disability.[15] Transfers to families with children are lower and more targeted, though tax credit payments (the CTC, in particular) reach high into the distribution. Families without children, elderly, or disabled individuals receive very little in benefits, even at low incomes.

Figure 6 provides similar calculations, dividing households into deciles by earnings rather than ATT income and including an 11th category for those without earnings. Among families with children, transfers to families without earnings are smaller than those to families with low but positive earnings, reflecting the decline of cash welfare caseloads (Floyd et al. 2017) and the growth of in-work tax credits. EITC benefits are a large share of the transfers to positive-earnings households. In zero-earnings households, there is a bit more welfare income, but the bigger replacement on average is Social Security benefits (largely for grandparents in the household). For both, the average is very low, around $4,500 per year per equivalized person, indicating that most families with zero or low earnings are living in deep poverty.

When we examine families without children, in **Figure 6*b***, the absence of welfare benefits and the very small EITCs for childless individuals and couples dramatically reduce the income transfer at low earning deciles. The average family without earnings receives only about $2,000 in annual transfers per person, again largely from Social Security, while low-earnings families average less than half of that.

[15]Note that households containing disabled individuals but no one over age 62 seem to receive nontrivial amounts of Social Security retirement income. This may reflect respondents' misreporting of disability payments as retirement income.

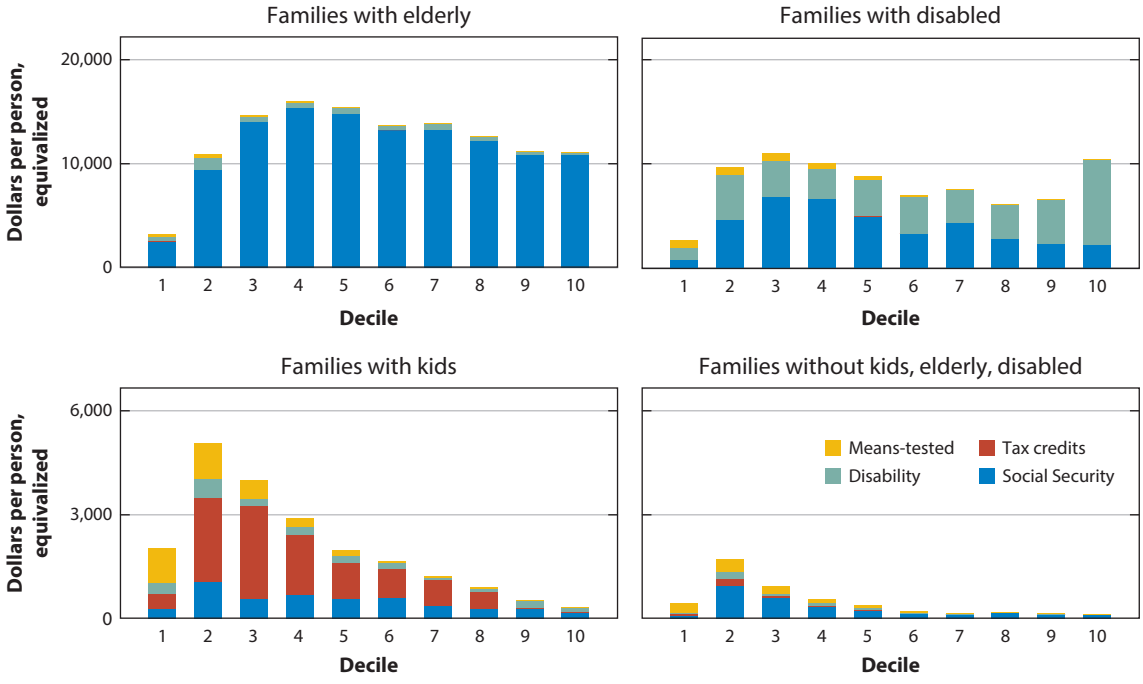


Figure 5

Average household transfers by family type and decile of after tax and transfer income. Data from authors' tabulations of the 2017 Current Population Survey Annual Social and Economic Supplement (US Census Bur. 2017).

Figures 4–6 collectively show the demographic and income targeting in our current social safety net, with the higher transfers going to the elderly and disabled, those with children compared to those without children, and those with low earnings. This implies that were we to eliminate current income support programs and apply the funds toward a pure UBI, there would be a relative redistribution from low earners to zero earners, but the first-order effects would be a massive distribution to higher income families, along with a redistribution from the elderly and the disabled toward those who are neither, primarily but not exclusively those without children.

One aspect of current transfers that is not illustrated clearly in **Figures 4–6** is the substantial variation within demographic and income groups. **Figure 7** shows the distribution of transfers within earnings decile (plus the zero-earnings group). This reveals wide disparities, even at the lowest incomes. For every group with children, median transfers total less than $3,850 per year per equivalized person and less than $250 for those without children, elderly, or disabled members, though there are a very small number of low- and zero-earnings households with children that receive more than $10,000 per year.

Table 3 shows aggregate costs and total caseloads for the major income transfer programs (see Comm. Ways Means, US House Represent. 2016 for an overview of many of these programs). We include here some programs not included in the figures, most notably the two public health insurance programs, Medicare (for the elderly) and Medicaid (for the poor). Total expenditures across all of the listed programs are around $2.3 trillion per year, with just under one-third of this due to Social Security retirement benefits and a bit less than half due to Medicare and Medicaid.

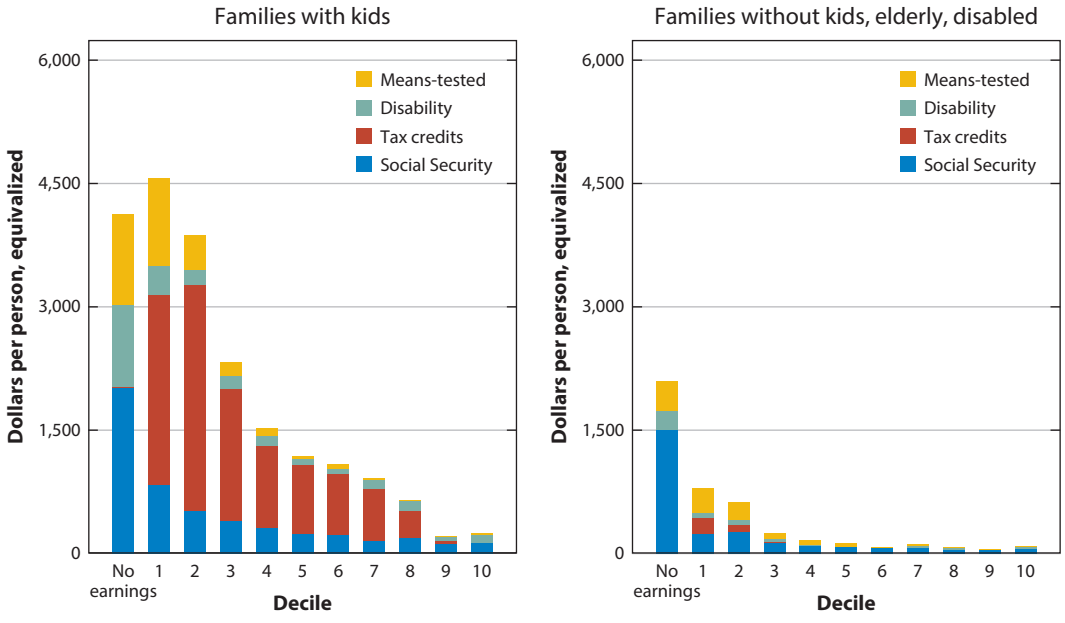


Figure 6

Average household transfers by family type and earnings decile. Data from authors' tabulations of the 2017 Current Population Survey Annual Social and Economic Supplement (US Census Bur. 2017).

Table 3 also shows the aggregate cost of a canonical UBI that pays $12,000 to each adult resident, without eligibility restrictions or phaseout.[16] We estimate that this would cost about $3 trillion per year. Cost is a first-order concern for any UBI program that might expand beyond a pilot.[17]

In the final rows of **Table 3**, we present two potential not-quite-universal basic income policies. One limits transfers to adults under 65, while the other is limited to adults with below-median incomes. (This can be seen as an approximation to a program that phases out gradually around the median.) These reduce the cost somewhat, but each would still cost several multiples of the entire existing nonretirement, nonhealth insurance safety net.

Figures 4–7 indicate that replacing all existing transfers, including the big three (Social Security retirement, Medicare, and Medicaid), with a UBI[18] would be a dramatic change, especially for seniors. The average household with a member over 65 receives $17,400 in Social Security benefits and health care benefits through Medicaid and Medicare, with an actuarial value of $12,900, which is much higher than proposed UBIs. Even assuming that we could create a health insurance marketplace for seniors—a large share of whom have preexisting conditions—that

[16]One might want to incorporate family size adjustments, as in the family size equivalized calculations above. However, as in the US federal income tax system, this would create marriage penalties. We are not aware of serious design efforts for UBIs that incorporate such complexities.

[17]Others have pointed out the high costs of a canonical UBI; for example, Greenstein (2017) discusses cost as well as the trade-offs of universal versus means-tested programs.

[18]Murray (2016) argues that this could be roughly cost neutral, though our estimates do not support that. The discrepancy reflects (*a*) his inclusion of a large number of other programs to be eliminated—including federal student loans, child care and adoption programs, public hospitals, and agricultural price supports; (*b*) somewhat different estimates of program costs; and (*c*) his use of a smaller UBI that phases out and excludes those under 21.

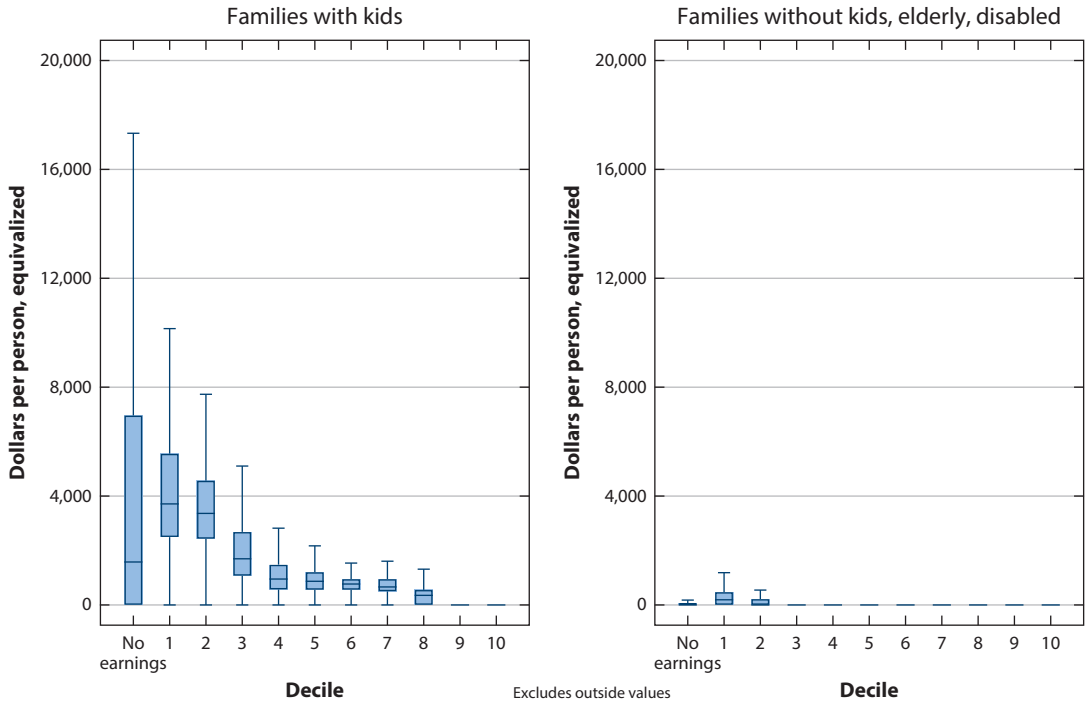


Figure 7

Distribution of household transfers by family type and earnings decile. Data from authors' tabulations of the 2017 Current Population Survey Annual Social and Economic Supplement (US Census Bur. 2017).

priced insurance at close to its actuarial cost, the average senior would see a more than one-third decline in their transfer income.

However, although Social Security, Medicare, and Medicaid could not easily be replaced by a UBI, there are some other programs that would become redundant. In particular, a sufficiently generous UBI would reduce the need for the EITC, CTC, TANF, SNAP, and perhaps disability and unemployment insurance. This, however, would not be remotely budget neutral. If Social Security, Medicare, and Medicaid are preserved, the remaining programs in **Table 3** together would cover only about one-fifth of the cost of the canonical UBI. The remainder would need to be funded through cuts to nontransfer government expenditures or through tax increases. Alternatively, a very small, possibly nonuniversal UBI could be funded, but this would not come close to making up for the loss of the existing transfers to the disabled or to low-income families with children.

In sum, a UBI would have quite substantial distributional and cost effects. A smaller proportion of UBI dollars would go to the bottom of the income distribution compared to the current system, though a generous UBI, with the needed revenue funded by a progressive tax, could increase the absolute size of transfers to the bottom and thus would represent a (potentially very large) downward redistribution of income. Similarly, a canonical UBI would give a larger share of transfers to the nonelderly and nondisabled than the existing programs, so any proposal to finance it through cuts in health and retirement programs—the largest sources of funds in the existing US transfer system—would need to address the large declines in living standards that the elderly and disabled would experience.

5. ECONOMIC ISSUES AROUND A UBI

Adopting a UBI would have a range of consequences. We review here some of the likely effects, focusing on labor supply, human capital, and children. We first discuss qualitative predictions, then we review the empirical evidence in Section 6.

5.1. Static Labor Supply

We begin with labor supply, as this effect dominates discussions of the economics of means-tested transfer programs. Traditional welfare programs, with low phaseout points P and high tax rates T, unambiguously lead to reductions in labor supply through negative income and substitution effects. By contrast, the EITC, which has effectively replaced traditional cash welfare as the main income assistance program for families with children, has no transfer for nonworkers ($G = 0$) and a high phase-in rate (S), so it creates strong incentives to enter work. (For those with positive earnings, the EITC creates both a negative income effect and, in the phase-out range, a negative substitution effect, so it is expected to reduce working hours.)

Existing program structures, the shift from AFDC to TANF, and the EITC reflect a general trend in recent decades in the United States toward programs that attempt to minimize labor supply disincentives. These take two forms. First, historically means-tested programs in the United States have used "tagging" (Akerlof 1978), limiting eligibility to those in exogenously defined groups who have low potential to work (or expectation to work). Second, current policies are increasingly designed to avoid punitive tax rates (lower T) and increase earnings disregards (higher P). This can also, as in the case of the EITC, include programs that use a positive S and no income floor ($G = 0$) to create incentives toward increased labor supply (Nichols & Rothstein 2016).

UBI proposals move policy in the opposite direction, and in general they can be expected to reduce labor supply relative either to a no-transfer hypothetical baseline or to the status quo. First, the canonical UBI generates a pure income effect that would reduce work on the extensive and intensive margins. Second, many UBI proposals impose phaseouts, and the added $P > 0$ and $T > 0$ lead to a further work disincentive through negative substitution effects.[19] Third, the high G in a UBI relative to existing cash welfare programs likely leads to larger labor supply reductions (though the higher P and lower T would arguably work in the opposite direction). Fourth, the absence of tagging means that vastly more people are exposed to these work disincentives than in our current patchwork system.

It is not clear whether negative effects on labor supply are a drawback. At least some UBI advocates support a UBI because it would eliminate the need to work for some low-skill workers who are expected to be displaced by technological change or who are otherwise occupied in unpaid care work. In that case, reductions in work are a desired impact, not an unintended consequence. However, there may not be political will to sustain large transfers to those who choose not to work.

A related potential impact of a UBI, much emphasized by its backers (e.g., Van Parijs & Vanderborght 2017), is to shift labor supply from unpleasant/precarious jobs to jobs that combine low pay with high amenities, jobs with opportunities for human capital accumulation, or simply jobs more aligned with individual tastes (e.g., in the arts). This can be seen as a manifestation of the income effect. One might also get shifts toward jobs offering training if credit constraints currently prevent workers from taking these jobs. We discuss this below, with regard to human capital effects.

[19] Further, any paid-for program will necessarily require high tax rates. These, too, will create negative substitution effects. They may also create positive income effects, but these would be concentrated among high-income workers and we expect they would be quite small.

A related incentive concerns entrepreneurship. It is possible that a UBI, by providing a predictable and permanent income floor, will encourage recipients to explore risky ventures. This again is best seen as reflecting an income effect and/or credit constraints.

In sum, any UBI would be expected to lead to lower labor supply, at least in the short run. Below, we explore other potentially offsetting channels that could produce a positive effect in the longer run, or at least offset the negative direct effect.

5.2. Pretax Wages, Human Capital, and Labor Supply in the Longer Run

There are three potential channels for UBI impacts on wages. First, all other things equal, the reductions in labor supply outlined above will increase wages for those who remain in work, as a downward labor supply shift moves the equilibrium up the labor demand curve (Rothstein 2010).[20]

Second, a UBI may lead to increased human capital investments by both young people and adults. There is extensive evidence that credit constraints are binding on many students and lead to reduced educational attainment (Lochner & Monge-Naranjo 2011). A UBI would loosen these constraints, allowing more educational investment, including on-the-job training. Effects might be particularly strong for mid-career workers who see value in retraining but cannot forgo earnings to do so. Any impact on human capital accumulation would naturally translate into higher wages in the medium to longer run.

Third, a UBI could have positive effects on child development. Transfer programs that increase families' resources when children are young have been found to have long-run effects on the children's development, health, and human capital attainment (discussed below). Impacts on early child development may translate into improved human capital accumulation and eventually higher wages. Insofar as dynamic complementarities are an important part of the child development process (Cunha & Heckman 2007), these two-generation effects may be an important component of the social welfare impacts of a UBI.

Human capital effects have follow-on implications for labor supply in the longer run. Higher-skilled individuals tend to work more. Thus, UBI impacts on skill imply positive impacts on long-run labor supply. These may offset, to some extent, the negative short-run impacts on labor supply.

Of course, labor supply is not the only metric by which to evaluate the UBI. The UBI is expected to increase after-tax income in the lower portion of the income distribution. Prior work shows that increases in government transfers that generate net increases in resources lead to improvements in health (e.g., reviewed in Almond et al. 2018). More generally, life satisfaction is the ultimate measure of welfare consequences, but it is hard to measure in a useful way.

5.3. Universality, Take-Up, and Stigma

There may be political value in the universal aspect of a UBI, as a way of maintaining widespread support for the program (e.g., as with universal programs such as Social Security and Medicare) and as a way of signaling social inclusion and that everyone is valued (Lowrey 2018). If this argument has merit, it has implications for program design and the taxes needed to pay for it. A tax on non-UBI income effectively becomes a program phaseout. However, maintaining universality and separating out the program from the taxes needed to pay for it may be advantageous even if irrelevant from an accounting perspective.

Another implication of universality, related to the potential impacts on social inclusion, is a lack of stigma for UBI recipients. In highly means-tested and eligibility-restricted programs,

[20]This point was also discussed as part of the debate on the negative income tax, for example, by Moffitt (1979).

participation reveals information that many consider private and thus may be stigmatized. This reduces program take-up and the potential reach and benefits of the programs (Currie 2006), though it may also help target the programs, maximizing impact by reaching those who stand to benefit the most. Take-up rates in AFDC throughout its history were quite low (about 50%), with stigma cited as one of the reasons (Moffitt 1983). Interestingly, the EITC has fairly high take-up rates (80% or more; see Scholz 1994, Plueger 2009), and ethnographic research has found low stigma, with recipients viewing the credit as a work bonus rather than a handout (Halpern-Meekin et al. 2015). How much this derives from the in-work nature of the credit ($G = 0$) or from its high P relative to other US means-tested programs is not known. The UBI could lead to similar results given a universal structure.

6. WHAT DO WE KNOW FROM THE RESEARCH?

UBIs meeting the definition we laid out above—large enough to live on, and without phaseout or other eligibility restrictions—have never been implemented in a rich country on a large scale or even in a pilot experiment. What we know about the likely effects of a UBI comes from analyses of policies that are similar in some ways to UBIs, though different in others, and from the broader labor supply literature.

6.1. Universal but Not Basic Income

We know of only two examples of universal programs without strict eligibility requirements, though in each case the transfers are too small to qualify as a basic income as we define it.

The Alaska Permanent Fund is a demogrant[21] with varying yearly payments, financed by the state's oil revenues. Payments in recent years range from $1,000 to $2,000/year. Jones & Marinescu (2018) use a synthetic control design to evaluate the program and find that the dividend had no effect on employment. They attribute this to a positive general equilibrium effect—i.e., the additional income leads to higher consumption, boosting labor demand—that offsets the negative income effect.

The Eastern Cherokee Native American tribe provides a demogrant to its adult members, financed out of revenues from tribal casinos. Payments, around $4,000 per year per person, do not depend on employment status, income, or residence on reservation. Several studies (Akee et al. 2010, 2013, 2018) have identified the effects of the payments using difference-in-differences designs, comparing Native American children from families receiving the transfers to non-Native children from the same geographic area in North Carolina, before and after the transfers began. The payments had positive impacts on children's educational attainment and criminal arrests (Akee et al. 2010) and on children's emotional and behavioral health (Akee et al. 2018), though they increased children's body mass indices (Akee et al. 2013). Akee et al. (2010) find no impact on labor force participation, even though the payment recipients were not a large share of the local labor force, so general equilibrium effects were unlikely.

There is no reason to expect stigma for receiving payments under either the Alaska or the Eastern Cherokee programs. However, in each case the payments were relatively small. It is possible that a larger payment would have had more transformative effects on labor supply. What evidence we have comes from studies of lottery winners, which do not find variation in income elasticities with payout size (Cesarini et al. 2017).

[21]Children and noncitizen permanent residents and refugees are eligible, but new residents of the state are not.

6.2. Programs with Guaranteed Income and Low Phase-Out Points

There is a larger body of evidence on programs that provide government income transfers to nonworkers, with phaseouts that begin at low earnings levels.

One set of evidence comes from evaluations of AFDC and TANF. The literature shows that AFDC reduced labor supply among single mothers by 10–50% relative to what would have been seen without the program (reviewed in Danziger et al. 1981; Moffitt 1992, 2003b; Hoynes 1997). Labor supply for non-AFDC recipients was fairly low (averaging 20 hours/week, including nonworkers), however, so the magnitude of the reduction in working hours was not very large.

AFDC eligibility was largely limited to single parents, and participation was heavily stigmatized. Those who participated were likely people who highly valued the benefit (e.g., because they were truly unable to work). This suggests that the impact on labor supply was likely smaller than it would have been with a more universal program.

NITs share the basic features of cash welfare programs, but typical proposals have higher G, lower phase-out rates T, and in many cases broader eligibility E. No country has implemented an NIT, but there is significant evidence from pilot programs. In the US Income Maintenance Experiments (IMEs) of the mid-1970s, low-income households in four locations were randomly assigned to various combinations of base transfers (G) and tax rates (T) in programs that phased out with the first dollar of earnings ($P = 0$). For example, in the Seattle-Denver experiment, G ranged from $23,000 to $34,000/year (2017 dollars), while T ranged from 50% to 80%.

Robins (1985; see also Burtless 1986) uses the impacts of the various treatment arms on labor supply to separately identify income and substitution elasticities. He finds that the treatment reduced labor supply by a small amount on average (equivalent to approximately two to three weeks of work per year). The variation across treatment arms indicates substitution elasticities around 0.1–0.2 (at the low end for husbands, a bit higher for single women, and higher for married women), and income elasticities around −0.1. The IMEs lasted for just a few years, so some of the labor supply response may have reflected intertemporal substitution. Because intertemporal labor supply elasticities are generally found to be larger than responses to permanent price changes, the estimated responses may overstate the effect of a permanent program.

Around the same time as the US experiments, the Canadian province of Manitoba implemented the Manitoba Basic Annual Income Experiment (Mincome). Despite its name, this tested an NIT: G was set to around 50% of the median household income, but the transfer phased out (at a tax rate T that ranged between 35% and 75%) with the first dollar of earnings ($P = 0$). Estimated effects on labor supply were negative but small and statistically insignificant (Hum & Simpson 1993). However, a recent nonexperimental study based on the Mincome saturation site, a rural town where all residents were eligible for payments, finds much larger negative effects on labor supply, a result that the authors attribute to community context effects (Calnitsky & Latner 2017).

Additionally, more recent evidence comes from the transition from AFDC to its successor program TANF. Prior to the federal reform, there were a number of experiments based on state waivers to the AFDC restrictions. Studies of these waiver experiments and nonexperimental evidence on the national transition found increases in labor supply, reductions in welfare participation payments, and either reductions or little change in income (Moffitt 2003b, Ziliak 2016). The findings suggest TANF increased labor supply through limiting benefits for nonworkers, an aspect of the program that is at odds with the original intent of a guaranteed income program. Welfare waivers that increased work disregards (particularly those that did so without time limits and stringent work requirements) caused increases in both labor supply and family income.

6.3. In-Work Tax Credits

An extensive literature uses variation generated from expansions in the federal EITC as well as the introduction and expansion of state EITCs and focuses on their impacts on single parents, who receive about three quarters of the total EITC credits. The research finds that the credit leads to increases in employment of single mothers, with little evidence of reductions in earnings for those in the labor market (Hotz & Scholz 2003, Eissa & Hoynes 2006, Nichols & Rothstein 2016).

The gains in earnings combine with the credit to increase family after-tax income and reduce poverty. For example, Hoynes & Patel (2018) find that among single mothers with less than a college degree, a $1,000 increase in EITC benefits leads to a 7.4 percentage point increase in employment and an 8.4 percentage point reduction in poverty. Hoynes and Patel find that half of the poverty reduction comes from increases in earnings. Additionally, there is evidence that the EITC leads to positive effects on maternal mental and general health (Evans & Garthwaite 2014).

6.4. Labor Supply Response Estimates from Other Settings

The above discussion focuses on specific programs. Another way to gain insight into the effects of a UBI is to identify the underlying parameters that are needed to evaluate its impact. The most important parameter for understanding the impact of a pure UBI on static labor supply is the income elasticity. This has been estimated in a wide range of settings, using a variety of methodologies. Blundell & MaCurdy (1999) provide a comprehensive review of the literature and conclude that the income elasticity of labor supply averages about −0.05 for men and −0.20 for married women.

The income elasticity is a sufficient statistic for the impacts of a pure UBI without a phaseout. The impact of a UBI that includes a phaseout depends on the substitution elasticity as well. Blundell & MaCurdy (1999) find the median compensated substitution elasticity is 0.08 for men and 0.78 for married women.

We can use these estimates, which are generally consistent with the experimental and quasi-experimental literature, to provide guidance on the estimated impacts of a UBI. A $12,000 per adult UBI, without a phaseout, would lead to a 33% increase in income at the mean among single-adult families or a 25% increase among married-couple families. Income elasticities in the range of −0.05 to −0.10 would lead to a 1.6% to 3.3% reduction in hours worked.

Now consider a UBI that phases out gradually between the 50th and 75th percentiles of the family income distribution. This creates an average implicit tax rate of about 27% for single-adult families and 55% for married-couple families over this range. With a substitution elasticity of 0.3, aggregate labor supply would fall by approximately 3%.[22]

These calculations assume that both income and substitution elasticities are constant. It is possible that responses to large transfers, like the UBI, are not proportionate to responses to the smaller shocks used to identify these elasticities. In particular, the participation response to an income shock might be larger when G is large enough to survive on without work. As noted above, the evidence on this is scant, but studies of lottery winners show that income elasticities are quite stable with the payout size (Cesarini et al. 2017).

[22] Among those with incomes in the third quartile, labor supply is predicted to decline by 9% for single parents and 17% for married couples. Nonlinear tax models suggest that families with incomes just above the median will reduce supply by less than this, to just the median, while families with incomes somewhat above the 75th percentile might reduce their supply. These effects offset and are not likely to be quantitatively important on net relative to our simple calculation.

6.5. Longer-Run Effects

The discussion in Section 5 suggests that the longer-run effect of the UBI may differ from that seen in the short run. One channel the longer-run labor supply effects operate through is child health and development. Welfare waiver studies found positive impacts on achievement among young children, but only for policies that increased maternal employment and family income (Morris et al. 2009). SNAP and the EITC improve health at birth (Strully et al. 2010, Almond et al. 2011, Hoynes et al. 2015), and children have fewer school absences when they have the greater access or larger purchasing power of SNAP (Bronchetti et al. 2018, East 2018). The EITC also leads to increases in children's achievement (Chetty et al. 2011, Dahl & Lochner 2012) and educational attainment (Bastian & Michelmore 2018, Manoli & Turner 2018). It is not clear whether the EITC effects reflect the value of additional financial resources—which could operate through greater consumption or through improved parenting behavior due to reduced stress (Mullainathan & Shafir 2013)—or the impact of increased maternal employment. The former would likely generalize to a UBI, but the latter would work in the opposite direction in the UBI (at least in the short run), so it would not generalize.

In the longer run, access to cash welfare in childhood leads to increases in health, educational attainment, and age at death (Aizer et al. 2016). SNAP in early childhood leads to improvements in adult health and, for men, economic outcomes (Hoynes et al. 2016). These effects more clearly reflect the impact of additional resources, so they generalize more readily to a UBI. While we have much more to learn, the work to date shows that two-generation benefits may be an important and until recently largely overlooked part of the benefits of these transfer programs (Hoynes & Schanzenbach 2018).[23]

7. ONGOING UBI PILOTS AND THE RESEARCH AGENDA GOING FORWARD

As we have seen, we have a good deal of evidence from a range of settings that substitution effects on short-run labor supply are moderate and income effects are small. There is also clear evidence that additional family resources improve children's outcomes, including health and school achievement.

The major open questions about UBIs, in our view, relate to longer-run effects, which are much harder to study using randomized and natural experiments. We do know that more resources in childhood have long-run effects on child development and health. However, do more resources in adolescence and early adulthood lead to greater human capital investment, translating into increased labor supply later? Does greater income in periods of joblessness lead to training or other investments that improve outcomes in the longer run? Does financial stability affect willingness to take risks or long-term planning? We know little about these.[24]

Second, do large transfers have qualitatively different impacts than smaller transfers? The available evidence comes from studies of lottery winners, and it is unclear whether this applies to a UBI.

Third, we know little about the role of universality. Does a universal program meaningfully reduce stigma and increase social inclusion, communicating that recipients are valued by society? Are there important general equilibrium effects, operating either through changes in wages due to supply shifts or to the additional demand created by consumers with more money to spend?

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[23] Price & Song (2018) find long-run negative impacts of the NIT experimental treatments on adult participants' labor supply, but no long-run impacts on the labor supply of children in treated households.

[24] Widerquist (2018) provides an extended discussion of the challenges in conducting experiments of UBIs.

We have very few studies of universal programs that use credible research designs, so we know little about this.

Finally, as our discussion in Section 6 indicates, a crucial part of the design of any UBI policy is the need to finance it. As we have emphasized throughout this review, funding a program that is both universal and provides a basic income will require raising enormous new revenues. The financing mechanism is, therefore, likely to have quite important effects on its own, in terms of both the labor supply impacts of new taxes and the political economy aspects of this change. The existing labor supply literature provides useful evidence for understanding the labor supply effects. The political economy effects, however, are harder to predict. A crucial question is whether the (perceived) benefits of universality can be maintained in the presence of substantial new taxes levied on a small share of the population.

The renewed interest in UBIs in recent years has led to an explosion of policy developments and research efforts. In particular, there are several ongoing pilots and experimental studies, and others in the planning stage, that will test programs billed as UBIs.

The highest-profile study is one being financed by the Silicon Valley firm Y Combinator Research, with a commitment of $100 million in funding (see Rhodes 2017). A pilot study is providing payments to a few dozen families, and a larger randomized study is planned in which 1,000 people will receive a UBI of $1,000 per month for three or five years. As currently planned, eligibility will be based on age (21–40) and on preenrollment income that is lower than the county median. Planning documents indicate that this is meant to be informative about a more universal program, and that the researchers expect program effects to be larger for low-income families. Researchers plan to negotiate waivers from eligibility requirements for other means-tested programs, enabling the UBI payments to supplement rather than replace existing transfers. As discussed above, any large-scale UBI would probably be financed in part by eliminating most other means-tested transfers, so it is not clear whether the effect of a UBI supplement is the parameter of interest.

Key research questions for the Y Combinator study concern the effects of the UBI on time use (including, but not limited to, labor supply), objective health and subjective well-being, financial health, risk and time preferences, political and social attitudes, and crime, as well as spillovers to recipients' families and social networks.

A second high-profile study is in the planning stages in Stockton, California. This study, led by the Economic Security Project, will provide payments of $500 per month to approximately 100 families for 18 months (Martin-West et al. 2018). Eligibility will be limited only by age (18 and over) and census tract income (below Stockton's median income). The study will focus on impacts on financial well-being and physical and psychological health. We are also aware of early-stage conversations about similar pilots in a number of other US locations.

In Europe, discussions seem to center around using UBIs as replacements for existing transfer programs, which compared to those in the United States tend to be more generous, have wider eligibility, and create larger disincentives to work. UBIs are seen as attractive because they make it feasible to return to work. However, to our knowledge only one study has come to fruition, in Finland. There, the program was restricted to people aged 25–58 already receiving a labor market subsidy or unemployment allowance. A total of 2,000 participants were randomly selected to receive a basic income payment of €560 per month; there was no option not to participate, and 5,000 individuals were in the control group. Recipients remained eligible for other programs, but the basic income was deducted so that participants would get the maximum of the basic income or what they would otherwise receive. In practice, this meant that many participants continued to need to interact with the safety net bureaucracy in order to receive their full benefits. Payments began in January 2017 and continued through the end of 2018. A preliminary evaluation found

no detectible effect on employment in 2017, but the treatment increased subjects' subjective well-being and confidence about the future (Kangas et al. 2019).

A final pilot study enrolled participants in April 2018 in three sites in Ontario, Canada. Only low-income people (under C$34,000 for singles or C$48,000 for couples) were eligible, and participants were randomly selected from among applicants within these sites. (In one site, the study is testing community-level outcomes, so there is no comparison group.) The payment is structured as an NIT: a guarantee of $G = $ C$16,989 for a single person or $G = $ C$24,027 for a married couple that begins phasing out immediately with earnings ($P = 0$) at a $T = 50\%$ rate. The program does not displace child benefits, but it does replace employment insurance, pension, welfare, and disability program payments.

These pilot studies will provide valuable proofs-of-concept about the administration of UBIs and about labor supply. However, we do not anticipate that they will dramatically add to our knowledge about the key unresolved questions that we outline above. This is in part because the samples are quite small, a function of the high cost of providing a UBI (and a cautionary tale about the feasibility of implementing a UBI at a large scale). Even with larger samples, however, the designs are quite similar to those of earlier studies. They will generate estimates of short-run income elasticities on labor supply, exactly the parameter that is well identified by the NIT experiments and many other studies in the literature. They will allow tests of the extrapolation from smaller programs that we used above to assess UBI labor supply effects based on the existing literature (though statistical power is a major concern). However, they will shed little or no light on any long-term effects, such as those operating through human capital accumulation, or on the psychological and political effects of universality.

8. CONCLUSION

Interest in UBI is on the rise in the United States and other advanced countries. Decades of wage stagnation and concerns about automation, robots, and job destruction, as well as discontent with the current social safety net, provide the foundation for interest in this area. Support for UBIs has led to several pilot programs and policy proposals in the United States, Canada, Finland, and Switzerland. Despite all of this, there is a lack of clarity on what makes a UBI, what problem it is meant to solve, whether the social safety net can provide or is providing these benefits, and what (if anything) can be learned from the pilot programs that we do not already know from the decades of existing research on individual and household responses to the social safety net, and on wages and income opportunities more broadly. Our article seeks to fill this gap.

A pure UBI (providing a set benefit to all regardless of income, age, etc.) funded to meet basic needs for a household without earnings would be extremely expensive, about twice the cost of all existing transfers in the United States. Funding it would require substantial new revenue. The source of the new funds is a first-order issue and will have substantial impacts on the distributional effects of the policy and its ability to target those most in need of assistance. In particular, replacing existing antipoverty programs with a UBI would be highly regressive, unless substantial additional funds were put in.

Much about the effects of a UBI on labor supply, income, and family well-being can be gleaned from the existing research, which we have briefly reviewed here. We have identified a few outstanding questions, such as the impact of a truly universal program (presumably without stigma) as well as the effects on human capital and, hence, labor supply in the longer run. Unfortunately, the planned and ongoing pilots are not well suited to answer these questions. Experimentation aimed at identifying parameters and mechanisms (Ludwig et al. 2011, Rothstein & von Wachter 2017, Deaton & Cartwright 2018) would be more useful than evaluations of small UBI pilots.

DISCLOSURE STATEMENT

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