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The Falling Cost of Basic Income in the United States, 1967–2024: Estimates for a Plan Large Enough to Eliminate Poverty

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Abstract: This article estimates the cost of Universal Basic Income (UBI) sufficient to eliminate poverty in the United States. It uses the most recent microdata available from the Census Bureau through its Current Population Survey (CPS) public-use microdata files and references historical income data from the Annual Social and Economic Supplements (ASEC) going back to 1967. It finds that UBI (or an equivalent guaranteed income) sufficient to eliminate official poverty is surprisingly affordable and that the cost of UBI as a percentage of GDP has been falling steadily for more than 50 years. Estimates based on the most recent data (from 2024) show the net cost of a UBI set at $16,000 per adult and $8,000 per child (slightly higher than the official poverty line) with a 50 % marginal tax rate is approximately $783.7 billion per year, which is about 2.67 % of GDP. In inflation-adjusted terms, the current cost of a poverty-line UBI as a percentage of GDP has fallen significantly from 9.35 % of GDP in 1967 to 4.95 % in 1995, 3.70 % in 2015, and 2.67 % in 2024. Therefore, as a percentage of GDP, the current cost of a poverty-line UBI is less than one-third (28.6 %) of what it would have cost when the guaranteed income was under discussion in the United States in 1967. This article also updates and significantly improves on calculations made in the article "The Cost of Basic Income: Back-of-the-Envelope Calculations" which appeared in *Basic Income Studies* in 2017.

Keywords: basic income; universal basic income; transfer payments; cost estimate; public policy; redistribution

This article estimates the cost of a Universal Basic Income (UBI) large enough to eliminate poverty in the United States. It both updates and improves on one of the authors' early cost estimates (Widerquist 2017). This article is not about the politics of UBI, nor about whether or which programs could be replaced by UBI. It is not about

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how to integrate a UBI into the existing tax and benefit system. It is not even about how to pay the cost of UBI.[1] It focuses on one question only: how much does UBI cost in isolation – UBI in a vacuum, so to speak.

Key findings of this study include:

- The net cost of a roughly poverty-level UBI ($16,000 per adult, $8,000 per child) with a 50 % marginal tax rate (defined below) is $783.7 billion per year.
- The net cost of a roughly poverty-level UBI is only 2.67 % of GDP.
- The net cost of a roughly poverty-level UBI is only 11.6 % of federal spending, and 7.52 % of total government spending.
- The net cost of this UBI plan in terms of GDP has consistently declined for decades – from 9.35 % in 1967 to 2.67 % in 2024. This means that UBI today costs less than one-third (28.6 %) of what it would have cost 57 years ago.
- This UBI plan would drop the official poverty rate from 10.6 % to 0 %, eliminating poverty for 35.9 million people (including 10.5 million children).
- This UBI scheme is a net financial benefit to most households with incomes up to $70,000 (and to large families with higher incomes), making it an effective wage subsidy (or tax cut) for tens of millions of working families.
- Net beneficiaries of the UBI scheme include 96.5 million adults and 33.5 million children (about 130 million people or about one-third of Americans) across 50.4 million households, generating a very large constituency in its favor once it is introduced.
- The net cost of this UBI plan is less than one-sixth (16.14 %) of its often-mentioned but not-very-meaningful gross cost ($4.86 trillion) (defined below).
- A UBI set at about 150 % of the U.S. poverty line ($24,000 per adult and $12,000 per child) would cost $1.93 trillion, which is about 18.51 % of total government spending and 6.59 % of GDP (using 2024 microdata).
- The cost of the more-generous, 150 %-poverty-line UBI plan is down significantly as a percentage of GDP (from 21.88 % in 1967 to 6.59 % in 2024). It is down enormously as a percentage of total government spending (from 72.02 % in 1967 to 18.51 % in 2024).

This article initially simply replicates Widerquist's (2017) "back-of-the-envelope" calculations to estimate the net cost of a UBI set near the official poverty line. The original calculations were with 2015 data, and we update that analysis to be with 2024 data. We then apply a more sophisticated methodology to household-level microdata and calculate the cost of UBI for each year between 1967 and 2024 using annual data

1 Technically, the question of how to "pay for" UBI is really the question of how to "resource" it by using the tax system to counteract any inflationary effects it might have.

available from the Census Bureau. The appendix uses both methodologies to look at UBI set at about 150 % of the poverty line ($24,000 per adult, $12,000 per child).

Although this paper's methodology is more sophisticated than that used in Widerquist (2017), it is still greatly simplified. It examines an illustrative UBI scheme meant not as a practical proposal but as a method to obtain ballpark estimates of the cost of UBI in isolation (i.e. without looking at how it might be integrated into the existing tax and benefit system and without looking at its effect on incentives, such as the likelihood that it will increase incentives for employers to pay better wages).

The cost of UBI is often poorly understood and sometimes greatly exaggerated. There are two ways of thinking about the cost of UBI: a naïve way and the realistic way. Naively, people might think that because everybody receives a grant, the total cost must be the amount given to each individual times the size of the population.[2] This is called the "gross cost" of UBI, but it is a gross exaggeration of the real cost of UBI. In fact, it is not a cost in any meaningful sense.

This is true because to introduce a large UBI without causing rampant inflation, it is necessary to introduce new taxes as well. Everyone receives the UBI grant, but almost everyone pays additional taxes as well, and UBI involves a very large amount of giving money to and taking money from the same people at the same time in the same form. In fact, two-thirds of people face new taxes that effectively take the entire UBI grant back. Any realistic assessment of UBI's cost has to subtract – net out – this taking and giving back. What remains is the net redistributive effect – the "net cost," the *real* cost – of UBI: the amount of money the UBI transfers from one group of people to another plus the associated transaction cost. A family that earns no non-UBI income and pays no taxes receives the full benefit of the UBI. However, a family with a non-UBI income still pays some taxes, reducing the net benefit they get from the UBI and therefore reducing the net cost to contributors.

As we show below, about one-third of citizens are net beneficiaries of the UBI we propose. That is, two-thirds of people receive no net benefit from UBI, and therefore, create no net cost to anyone. Even the 130 million people we find to be net recipients pay most of the cost of their own UBIs in taxes on their non-UBI income – reducing the redistributive cost of providing that UBI to that person. We find that the net cost of UBI is only about one-sixth of its gross cost. Any discussion of UBI's cost that fails to consider the net-cost issue is misleading at best and deceptive at worst.

The net cost of UBI is, in fact, equivalent to the cost of an equal-size Guaranteed Income (GI) with the same take-back rate (defined below). UBI is a periodic cash payment unconditionally delivered to all on an individual basis, without any work requirement or means-test. The Guaranteed Income (GI) is a periodic cash payment

2 For example, Tcherneva (2017), Bergmann (2004).

unconditionally delivered to all on an individual basis, without a work requirement, but it may have a means-test in the form of an income-test. UBI allows no means test, and income is a form of means. Therefore, all UBI plans give the same grant to everyone no matter how high or low their income is.[3] UBI plans also involve taxes on income (or any other tax base) that effectively take a little of the UBI back as a person's income rises. If those taxes begin at the first dollar of income (as they do in our illustrative plan) almost everyone both receives the grant and pays the associated income tax. GI gives a full grant only to people who make no non-UBI income and literally takes back the grant as income rises, so that no one both receives the grant and pays the associated income tax at the same time. It's fair to say that GI involves a direct means test (reducing grant payments as income rises), while UBI involves an indirect means test (increasing tax payments as income or another tax base rises). One of the authors of this work presents arguments about the importance of net costs, about the equivalence between the cost of UBI and GI, and about why citizens should prefer the UBI model in several other articles. Please see those articles for a comprehensive discussion.[4]

To estimate the cost of UBI in isolation, we have to look at the giving-money-and-taxing-it-back effect in isolation as well. To do so, we imagine a new income surtax of 50 % on all non-UBI income up to the "break-even point" (the level of income at which the tax paid equals the UBI received). The 50 % tax rate goes to zero at this point so that no individual pays more in this tax than they receive in their UBI. In other words, this imaginary income surtax has a 50 % "marginal tax rate" or "take-back rate" for all income up to the break-even point but has a zero marginal tax rate on all income beyond the break-even point.

One might ask why the imaginary income surtax stops so abruptly. The answer is that we are interested only in estimating the cost of UBI in isolation. Although we have to make some assumption about how the UBI is taxed back to get an idea of its real cost, we do not have to make any assumptions about how that net cost is "resourced" or "financed." If we were addressing that question, continuing the 50 % tax rate beyond the break-even point would be only one of many options. Others include land value taxes, rent taxes, resource-use taxes, pollution taxes, value added taxes, capital gains taxes, wealth taxes, estate taxes, and so on. Which tax options would be best to counteract the inflationary pressure caused by a UBI of this size is a question for another article. The concluding section briefly discusses some of these issues.

3 Although they may vary by age of the recipient.

4 Widerquist (2017), Arndt and Widerquist (2019), Widerquist and Arndt (2023).

Because the available income data is for all income from all sources, we are forced to apply our imaginary income surtax on *all* income: wages, salaries, capital gains, dividends, business income, and income from all transfer payments other than UBI. This makes our imaginary income surtax very different from the existing income tax. It also means that the interaction of this tax and the regular income tax will create high marginal rates for people nearing the break-even point. The concluding section discusses this issue.

Again, this UBI plan is not a practical proposal. It is not a good way to integrate UBI into the existing tax-and-benefit system, but it *is* a very good way to isolate and estimate UBI in a vacuum: the cost of UBI *in and of itself*. Integrating it into the system will create additional costs and savings, all of which will differ depending on *how* we choose to integrate UBI into the existing tax and benefit system. Because there are many different options for integrating UBI into the existing system, it's best to start by examining UBI in a vacuum, providing cost estimates that will be a useful starting point for any future research examining how to resource UBI and how to integrate it into the existing tax and benefit system.

This article has five parts. Part One explains some methodological issues common to both approaches. Part Two reports cost estimates calculated using that methodology, showing that the cost of UBI has increased slightly in dollar terms and that it has decreased significantly as a percentage of GDP. Part Three recalculates the cost using an expanded methodology based on household-level data from the Annual Social and Economic (ASEC) supplement to the Current Population Survey (CPS), finding broadly consistent results: slightly higher costs in dollar terms but the same trend of costs declining as a percentage of GDP. Part Four examines the cost of UBI over time from 1967 to 2024, showing that the cost of an inflation-adjusted UBI set roughly at the poverty line has declined significantly in relation to both GDP and government spending. Part Five concludes with a brief discussion of how UBI might be integrated into the existing tax and benefit system. The appendix reports results from applying both methodologies to a UBI set at about 150 % of the poverty line.

1 Part One: Methodological Issues Relevant to Both Approaches

Any UBI scheme is typically identified by two essential parameters that can be chosen by policymakers: the "grant-level" and "marginal tax rate," each explained in turn.

The "grant-level" is simply the size of the UBI. The main text of this article examines a UBI set approximately at the official poverty threshold or "poverty line." In 2024, the Census Bureau estimated the poverty line at $15,940 for an individual living alone and $20,220 for a household of two people.[5] We consider a UBI of $16,000 per adult and $8,000 per child as round figures set just above the official poverty line for adults, about 19.2 % above the poverty line for a single parent with one child, and about 58.2 % above the poverty line for two adults living together.

The "marginal tax rate" or "take-back rate" is the tax rate faced by net beneficiaries on a one-unit increase in non-UBI income. In the GI version, the effective marginal tax rate is more literally a tax-back rate: it is the amount benefits decline for every one-unit increase in non-UBI income. For simplicity, this article assumes that all net beneficiaries face the same marginal tax rate of 50 % on each dollar they receive in all forms of income up to the break-even point. We chose this rate partly because it simplifies the mathematics, and partly because it is a reasonable figure to balance marginal incentives with the need to phase out net benefits. The marginal tax rate relates only to the imaginary take-back surtax explained in the introduction. We discuss the interaction of that tax and the existing tax system in the final section.

Being a net contributor means that one's surtax effectively takes back their entire UBI. Whatever other tax they might pay, the surtax they pay is greater than the amount they (or their household) receive in UBI, so that they receive no net financial benefit from the new UBI plan.

The "net benefit" or the "net redistributive effect" of a UBI is the final amount beneficiaries receive after subtracting the income surtax they pay from their UBI. Assuming balanced-budget financing,[6] the net benefit to recipients differs from the net cost to net contributors by the administrative cost of the program. Widerquist (2017) assumes that UBI's administrative costs are the same as Social Security's – 0.7 % of total budget – because both are relatively simple-to-administer programs.[7] Thus, the net cost of UBI is the net benefit to recipients plus 0.7 %.

This article's UBI-in-a-vacuum approach means that it does not examine the possible costs and savings that might be possible by changing any other aspects of the U.S. tax and benefit system in response to the introduction of UBI, but one aspect of this article might be viewed as an exception to the UBI-in-a-vacuum approach. That

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5 U.S. Census Bureau (2025), "Poverty Thresholds by Size of Family and Number of Children, 2024."

6 Balanced-budget financing is not necessarily the best way to make sure that enough resources are available so that net beneficiaries can spend their new income without causing inflation. Balanced-budget financing is also a simplification. See Widerquist, "Functional Finance and the Sustainability of Universal Basic Income."

7 Social Security Administration, "Social Security Administrative Expenses," The Social Security Administration, https://www.ssa.gov/oact/STATS/admin.html.

is, this article (like Widerquist 2017) applies the 50 % tax rate to *all* income including redistributive benefits other than our hypothetical UBI. The decision to apply the 50 % surtax to all income together was dictated by the available data, which is reported as total income, which includes all other transfer payments along with capital gains, dividends, business income, wages, salaries and so on.

The inclusion of transfer payments in total income means that a single individual receiving a combination of SNAP, Social Security, and other benefits totaling $16,000 when this UBI is introduced would see their total income go up half as much as it would if those benefits were excluded. They would receive a $16,000 UBI, would pay an $8,000 tax, and would end with a combined income of $24,000, rather than a combined income of $32,000, which they would receive if other transfer payments were untaxed. Because the marginal tax rate goes to zero at the break-even point, it ensures that everyone either breaks even or benefits from the combination of the UBI they receive and the surtax they pay. As long as any additional taxes necessary to resource this UBI plan are applied only to people who are not receiving transfer payments, no transfer payment recipients will be financially harmed by this program. Again, the tax on benefits is a simplifying assumption, dictated by the available data. We briefly discuss how to integrate UBI into the existing transfer system in Part Five.

The UBI-in-a-vacuum approach also involves ignoring the interaction between the 50 % income surtax and other taxes. This interaction will cause very high combined marginal tax rates for some net beneficiaries – especially those nearing the break-even point. We discuss this issue briefly in the concluding section. For now, it is important to remember that high *marginal* tax rates do not imply high taxes. Quite the opposite: by design (and by definition), the overall tax burden of every net beneficiary *decreases*. It will cost money to reduce their marginal tax rates, but doing so will also increase the benefit to these working people.

Ignoring administrative costs for now, the net cost and net benefit of UBI are equal and can be determined by the following "**cost equation**," which is (in words):

$$\text{Net cost (net benefit) (N) equals the UBI (U)}$$

$$\text{minus non-UBI income (Y) times the tax rate (t).}$$

Or (in symbols):

$$N = U - (Y \times t)$$

Under the poverty-level scheme specified above, the benefit to each adult net beneficiary is:

$$N = 16,000 - (Y_i \times 0.50)$$

The benefit for each child net beneficiary is:

$$N = 8,000 - (Y_i \times 0.50)$$

Most children have no income of their own, but some do, and all the income of all family members is relevant in this UBI plan.

The Census Bureau definition of a "household" is not always synonymous with a "family" or people who file income taxes "jointly." A family of two adults and three children who all live together would constitute a household, a family, and (usually) joint tax filers. Five unrelated people sharing an apartment constitute a household, but they do not constitute a family, and they will seldom if ever constitute a unit for taxation purposes. Although most of us usually think of households and families as being synonymous, it's important to remember that some households, especially some of the largest ones (receiving the largest "household" UBI), are not families but unrelated individuals or multiple families sharing a dwelling.

UBI is given on an individual basis, but government collects most income-related data at the household level and usually taxes people at the family level. Therefore, this article is forced to look at the effects of this *individual* grant on *households* by multiplying the number of adults in the family by $16,000 and the number of children by $8,000, making the cost equation for each household:

$$N = (16,000 \times \text{number of adults}) + (8,000 \times \text{number of children}) - (Y_H \times 0.50)$$

Where household income (Y_H) is the sum of the individual incomes (Y_i) of each of the household members.

For example, the benefit of this level of UBI to a family of one adult and one child is given by this equation:

$$N = (16,000 \times 1) + (8,000 \times 1) - (Y \times 0.50)$$

Which simplifies to:

$$N = 24,000 - (Y \times 0.50)$$

Filling in values for non-UBI income (Y) into this equation makes it possible to calculate this family's net benefit and their final income (net of taxes and transfers):

Non-UBI income (Y)	Tax (Y × 0.50)	UBI grant (U)	Net benefit/net cost[a] (N)	Net income (N + Y)
$0	0	$24,000	$24,000	$24,000
$12,000	$6,000	$24,000	$18,000	$30,000
$24,000	$12,000	$24,000	$12,000	$36,000
$36,000	$18,000	$24,000	$6,000	$42,000
$48,000	$24,000	$24,000	$0	$48,000

[a]These figures ignore the 0.7 % administrative cost that separates net benefit and net cost, but that amount is easily added at the end of the analysis.

This family, as a whole, reaches the break-even point at $48,000. That is, even at $47,500, the household would receive a small net subsidy.

2 Part Two: Back-of-the-Envelope Calculations of Net Cost of UBI in 2024

Widerquist's (2017) admittedly "back-of-the-envelope" methodology makes do with extremely broad averages that are available from some of the U.S. Census Bureau simple spreadsheets.

Table 1 shows 2024 Census Bureau data for the distribution of household income by increments of $5,000.[8] That table provides most of the data necessary to calculate a very rough estimate of the cost of UBI by applying the cost equation to everyone in

Table 1: Data from the census bureau.

Column:	A	B	C
Income of household	**Number of households**	**Mean income (Y)**	**Mean size of household**
Under $5,000	3,840,000	$1,038	2.50
$5,000 to $9,999	1,760,000	$7,602	1.81
$10,000 to $14,999	4,009,000	$12,570	1.83
$15,000 to $19,999	3,945,000	$17,310	1.55
$20,000 to $24,999	4,652,000	$22,250	1.58
$25,000 to $29,999	4,407,000	$27,180	1.67
$30,000 to $34,999	4,698,000	$32,080	1.83
$35,000 to $39,999	4,518,000	$37,070	2.01
$40,000 to $44,999	4,301,000	$41,960	2.00
$45,000 to $49,999	4,551,000	$47,170	2.17
$50,000 to $54,999	4,509,000	$51,910	2.11
$55,000 to $59,999	3,905,000	$57,050	2.14
$60,000 to $64,999	4,338,000	$61,810	2.29
$65,000 to $69,999	3,480,000	$67,130	2.39
Total (where appropriate)	56,913,000		
Average (where appropriate)	4,065,214	34,581	1.99

Sources and explanations: column A. The number of households in each range of income. Source: U.S. Census bureau table HINC-06, 2024. B. The average income of households in each range. Source: U.S. census bureau table HINC-06, 2024. C. The average number of people in each household in each range. Source: HINC-01, 2024.

8 U.S. Census Bureau, *HINC-01. Selected Characteristics of Households by Total Money Income in 2024*; U.S. Census Bureau, *HINC-06. Income Distribution to $250,000 or More for Households: 2024*.

each income bracket as if they were one giant household. The source tables do not provide information about how many children are in each income range. For simplicity, although the number of children in each household undoubtedly varies with household size and income, we use the percentage of children in the entire population (21.49 %[9]) as an estimate for the percent in each income bracket. The use of household-level data is the main improvement employed in the more sophisticated method explained in the next section.

The limited data employed here makes it impossible to account for the way in which households of different sizes reach the break-even point at different income levels. According to the calculations below, the *average* net beneficiary household reaches the break-even point at about $70,000. However, the break-even point for individual households varies considerably. Single people reach it at only $32,000 while – say – a family of two adults and six children would not reach it until $160,000. Ten single adults sharing an apartment would reach the break-even point only at $320,000, which sounds like a lot, but it amounts to only $32,000 per person. Such households are rare, but they do exist.

The variation in the size of households means that some households classified as net beneficiaries in these back-of-the-envelope estimates are actually net contributors while some households classified as net contributors are actually net beneficiaries. As later sections reveal, this simplifying assumption introduces two forms of bias, both of which lead toward underestimating the cost of UBI.

Tables 1, 2, 3, and 4 all stop at the break-even point for the average family ($70,000).

Column A shows the number of households in each bracket. Column B shows the mean income for households in each income bracket. Column C shows the mean size of households in each bracket.

Tables 2, 3, and 4 are all based on the information in Table 1 and the assumptions described above. Column names carry on in order (A, B, C, etc.) across the four tables with column B repeated for clarity in Table 4.

Table 2 makes the intermediate calculations that are necessary to connect the raw data in Table 1 to the elements of the cost equation in Table 3. Column D calculates the number of people in each income bracket by multiplying the number of households (Column A) by the mean size of each household (Column C). Column E estimates the number of children in each income bracket by multiplying the number of persons by 21.49 %. Column F subtracts the estimated number of children from the number of persons to obtain the estimated number of adults.

Table 3 shows that the net financial benefit or net redistributive effect of this program is $601.3 billion. Adding 0.7 % for transaction costs makes the net cost of the

9 U.S. Census Bureau, *Older Adults Outnumber Children in 11 States and Nearly Half of U.S. Counties.*

Table 2: Intermediate calculations.

Column:	D	E	F	G	H
Income of household	**Mean number of children**	**Mean number of adults**	**Number of persons**	**Number of children**	**Number of adults**
Under $5,000	0.54	1.96	9,600,000	2,063,040	7,536,960
$5,000 to $9,999	0.39	1.42	3,185,600	684,585	2,501,015
$10,000 to $14,999	0.39	1.44	7,336,470	1,576,607	5,759,863
$15,000 to $19,999	0.33	1.22	6,114,750	1,314,060	4,800,690
$20,000 to $24,999	0.34	1.24	7,350,160	1,579,549	5,770,611
$25,000 to $29,999	0.36	1.31	7,359,690	1,581,597	5,778,093
$30,000 to $34,999	0.39	1.44	8,597,340	1,847,568	6,749,772
$35,000 to $39,999	0.43	1.58	9,081,180	1,951,546	7,129,634
$40,000 to $44,999	0.43	1.57	8,602,000	1,848,570	6,753,430
$45,000 to $49,999	0.47	1.70	9,875,670	2,122,281	7,753,389
$50,000 to $54,999	0.45	1.66	9,513,990	2,044,556	7,469,434
$55,000 to $59,999	0.46	1.68	8,356,700	1,795,855	6,560,845
$60,000 to $64,999	0.49	1.80	9,934,020	2,134,821	7,799,199
$65,000 to $69,999	0.51	1.88	8,317,200	1,787,366	6,529,834
Total (where appropriate)			113,224,770	24,332,003	88,892,767

Sources and explanations: D. The average number of children in each household: author's calculation, column C times the percentage of child population (21.49 %) calculated as 2024 Census Bureau estimates for the population of persons under 18 (73.1 million) divided by the total population (340.1 million). E. The average number of adults per household (column 3 minus column 4). F. The number of people in each income range. Number of households times mean number of persons per household. G. The estimated number of children in each range: author's calculations, column F times 21.49 % (see source information for column C in Table 1). H. The number of adults in each range. Number of persons minus number of children (column F minus column G).

program equal to $605.5 billion. GDP in 2024 was $29.3 trillion. Federal government spending was $6.75 trillion, and total government spending (meaning federal, state,

Table 3: Calculation of the cost equation to find the net cost of UBI of $16,000 for adults and $8,000 for children with a marginal tax rate of 50 %.

Column:	I	J	K	L
Income of household	**Income before taxes and transfers (Y)**	**UBI (U)**	**Taxes (Y × t)**	**Net benefit/net cost (N)**
Under $5,000	$3,985,920,000	$137,095,680,000	$1,992,960,000	$135,102,720,000
$5,000 to $9,999	$13,379,520,000	$45,492,916,480	$6,689,760,000	$38,803,156,480
$10,000 to $14,999	$50,393,130,000	$104,770,660,776	$25,196,565,000	$79,574,095,776
$15,000 to $19,999	$68,287,950,000	$87,323,521,800	$34,143,975,000	$53,179,546,800
$20,000 to $24,999	$103,507,000,000	$104,966,164,928	$51,753,500,000	$53,212,664,928
$25,000 to $29,999	$119,782,260,000	$105,102,260,952	$59,891,130,000	$45,211,130,952
$30,000 to $34,999	$150,711,840,000	$122,776,893,072	$75,355,920,000	$47,420,973,072
$35,000 to $39,999	$167,482,260,000	$129,686,515,344	$83,741,130,000	$45,945,385,344
$40,000 to $44,999	$180,469,960,000	$122,843,441,600	$90,234,980,000	$32,608,461,600
$45,000 to $49,999	$214,670,670,000	$141,032,468,136	$107,335,335,000	$33,697,133,136
$50,000 to $54,999	$234,062,190,000	$135,867,388,392	$117,031,095,000	$18,836,293,392
$55,000 to $59,999	$222,780,250,000	$119,340,361,360	$111,390,125,000	$7,950,236,360
$60,000 to $64,999	$268,131,780,000	$141,865,752,816	$134,065,890,000	$7,799,862,816
$65,000 to $69,999	$233,612,400,000	$118,776,269,760	$116,806,200,000	$1,970,069,760
Total				$601,311,730,416
Total net cost (net benefit plus administrative costs)				$605,520,912,529

Sources and explanations: I. The total private income of all families in each income range before taxes and transfers (Y in the cost equation). Number of households times mean income. J. The total amount of UBI grants paid to families in each income range (U in the cost equation). Number of children times $8,000 plus number of adults times $16,000. K. The amount of taxes paid by families in each income range (Y × t in the cost equation). Total Income (Y) times 50 % (t). L. The net cost/net benefit of the UBI (N in the cost equation). UBI minus taxes. The total amount of money transferred to people in each income range.

and local spending combined) was $10.42 trillion. Therefore, by these estimates, the cost of UBI is a little more than 2 % of GDP, a little less than 9 % of federal government

Table 4: Effects of UBI on households.

Column:	B	M	N	O	P	Q
Income of household	**Mean income per household before tax & transfer**	**Mean net subsidy per household**	**Mean net income per household**	**Mean income per person before tax & transfer**	**Mean net subsidy per person**	**Mean net income per person**
Under $5,000	$1,038	$35,183	$36,221	$415	$14,073	$14,488
$5,000 to $9,999	$7,602	$22,047	$29,649	$4,200	$12,181	$16,381
$10,000 to $14,999	$12,570	$19,849	$32,419	$6,869	$10,846	$17,715
$15,000 to $19,999	$17,310	$13,480	$30,790	$11,168	$8,697	$19,865
$20,000 to $24,999	$22,250	$11,439	$33,689	$14,082	$7,240	$21,322
$25,000 to $29,999	$27,180	$10,259	$37,439	$16,275	$6,143	$22,419
$30,000 to $34,999	$32,080	$10,094	$42,174	$17,530	$5,516	$23,046
$35,000 to $39,999	$37,070	$10,169	$47,239	$18,443	$5,059	$23,502
$40,000 to $44,999	$41,960	$7,582	$49,542	$20,980	$3,791	$24,771
$45,000 to $49,999	$47,170	$7,404	$54,574	$21,737	$3,412	$25,149
$50,000 to $54,999	$51,910	$4,177	$56,087	$24,602	$1,980	$26,582
$55,000 to $59,999	$57,050	$2,036	$59,086	$26,659	$951	$27,610
$60,000 to $64,999	$61,810	$1,798	$63,608	$26,991	$785	$27,776
$65,000 to $69,999	$67,130	$566	$67,696	$28,088	$237	$28,325
Weighted average	$35,691	$10,565	$46,256	$17,940	$5,311	$23,251

Sources and explanations: B. The average income of households in each range. Source: U.S. Census Bureau table HINC-06, 2024. M. The average net subsidy received by families in each income range. UBI divided by number of households in each income range. N. Average net income per household. Average net subsidy plus average income. O. Average net income per person. Average net household income (column N) divided by the average number of persons per household (column C). P. Average net subsidy per person. Average net subsidy per household (column M) divided by the average number of people per household (column C). Q. Average net income per person. Mean net income per household (column N) divided by the average number of people in each household (column C).

spending and 6 % of total government spending. But as we cautioned above, these turn out to be underestimates.

Although it took the greater part of this article so far to explain and calculate UBI's net cost, its gross cost can be explained and calculated in one sentence. The gross cost of this UBI scheme is $16,000 times the U.S. adult population (267 million) plus $8,000 times the U.S. child population (73.1 million),[10] which comes to $4.86 trillion (ignoring administrative costs). Therefore, by these estimates, the net cost, the *real* cost of UBI ($605.5 billion) is one-seventh of its gross cost.

One reason for the difference between gross and net cost is obvious: only about one-third of citizens (113.2 million people, among households earning less than $70,000) are net beneficiaries. Everyone gets the UBI, but two-thirds of people get new taxes that effectively take back the entire UBI. Another reason is just as important but less obvious: net beneficiaries pay most of the cost of their own UBIs in taxes on their non-UBI income. Column J shows that net beneficiaries receive $1.63 trillion in UBI grants, but Column K shows that these same net beneficiaries pay $1.02 trillion in taxes. That is, the average net beneficiary pays 62.81 % of the gross cost of their own UBI through taxes, cutting the cost to net contributors by the same 62.81 %.

The taxes paid by net beneficiaries do not interfere with UBI's ability to do what it is designed to do. Table 4 helps illustrate this point. Column B – reproduced from Table 1 for reference – shows mean household income. Column M shows the average net subsidy for households in each income bracket ($U - (Y \times t)$). Column N shows the average income per household after that household pays the income surtax and receives its UBI. It is average income plus average net subsidy per household ($Y + N$). Columns O, P, and Q present the data from Columns B, M, and N on a per person basis rather than a per household basis.

Although we demonstrate below that this approach produces somewhat biased estimates, its use of brackets correctly reveals some effects that are worth discussing at more length now.

This table shows that people at the very bottom of the income distribution receive the largest net subsidy. Households with incomes less than $5,000 receive an average net subsidy of $35,183 per household and $14,073 per person. The UBI moves the average family in this range from very deep poverty to well above the official poverty line (which was $21,100 for a family of two in 2024[11]).

10 According to Census Bureau estimates, the U.S. population was 340.1 million in 2024, and 22.49 % of them were under 18.

11 U.S. Census Bureau 2025, "Poverty Thresholds by Size of Family and Number of Children, 2024."

At least four factors explain why this UBI set roughly at the poverty line raises the typical family in the lowest income bracket so far above it: First, even the very small average non-UBI income of $1,038 for households in the under-$5,000 group helps. Second, the poverty threshold varies with household size, but UBI does not. The UBI is set at $16,000, which is just above the 2024 poverty line for a single person living alone ($15,940). The UBI is well above the poverty line for a household with two people: the UBI doubles to $32,000, while the poverty line rises by only $3,900 to $20,220. Third, the round figure of $8,000 per child (half the UBI for an adult) is significantly more than official statistics require for the second person in a household ($3,900). Fourth, the second and third effects get larger as household size increases, and household sizes in the under-$5,000 group are relatively large (2.5 persons per household as opposed to 1.99 for net beneficiaries as a whole).

This table also shows that, although UBI is unconditional, which means in part that it has no work requirement, it is effectively a subsidy for working families. The average net beneficiary household is made up of 1.99 people (Column C) – 1.56 adults and 0.43 children. The bottom row shows that they receive a net subsidy of $10,565 (Column M), raising their income from $35,691 (Column B) to $46,256 (Column N). This added income will make an important difference to working-class families, raising their income to well over double the official poverty line for a family of two.

Each row down the list shows households with higher non-UBI incomes. Final income (after the UBI and the income surtax) rises with each incremental increase in non-UBI income. The average subsidy declines as non-UBI income rises, reaching zero at the break-even point – about $70,000 per year for the average family. There is no "notch" or "benefit cliff" of the kind faced by beneficiaries of conditional programs that are withdrawn when non-UBI income reaches a certain amount.

These results are directly comparable to the figures calculated by Widerquist (2017) using 2015 data.[12] The 2024 cost of $605.5 billion is only 12.3 % higher than the 2015 cost of $539 billion in current-dollar (non-inflation-adjusted) terms. This result might be surprising considering that the 2024 hypothetical UBI is 33.33 % higher than the 2015 version ($16,000 per adult and $8,000 per child in 2024 compared to $12,000 per adult and $6,000 per child).

These estimates show the cost of UBI as a percentage of GDP declining substantially from 2.95 % to 2.07% – a drop of nearly 30 %. However, Widerquist (2017) admittedly used an extremely simplified "back-of-the-envelope" methodology, hoping only to produce a "ballpark" estimate of the cost. We turn now to a more sophisticated methodology to examine whether the back-of-the-envelope

12 Widerquist (2017).

method successfully got the cost estimate in the ballpark, whether it confirms the finding of a downward trend in the cost of UBI relative to GDP, and whether it confirms the finding that the net cost of a UBI this size is a small fraction of its gross cost.

3 Part Three: Expanded Household-Level Estimates of the Net Cost of UBI in 2024

The calculations above are based on tabulations of households by income bracket provided by the U.S. Census Bureau. These tabulations are based on the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS). The CPS is a monthly survey of approximately 60,000 U.S. households, and the ASEC is an annual supplemental survey provided to households as part of the CPS each March. The underlying and anonymized microdata is made available to the public by the Census Bureau through CPS public-use microdata files. The public-use microdata undergoes processing such as the removal of personally identifiable data, the removal of household responses where the confidentiality of respondents cannot be ensured, and additional top-coding and measures to preserve confidentiality. These changes mean that tabulations based on the public-use microdata will not exactly match Census tabulations, but they should still be expected to fall within a small margin of error from the original tabulations, which can be computed using Census provided replicate weights.

In this section, we reproduce the earlier calculations using public-use microdata accessed from IPUMS, which provides data with additional processing and harmonization of variable names across years. There are two benefits to using the public-use microdata directly. The first benefit is that instead of using bracket averages, we can compute the household-level net cost of UBI using actual household income and the actual number of adults and children in each household. The second benefit is that due to the harmonization of variable names across years, once we have computed the net cost of UBI for 1 year, it is straightforward to extend our calculations to cover additional years by simply downloading data for each year we want to calculate for. Although income is reported in current prices, we can adjust for changes in prices across years through the Consumer Price Index (CPI). Specifically, we will later adjust for differences in prices across years using the data series "Consumer Price Index for All Urban Consumers: All Items in U.S. City Annual Period Average", which we download from the Federal Reserve Bank of St. Louis.

This section reports the harmonized IPUMS variable names necessary to reproduce each step of our prior calculations, where we report the IPUMS data series

names in italics and parentheses. We conduct our analysis in R, which is an open source and freely available programming language and software environment for statistical analysis.[13] After downloading data from IPUMS, we filter the data to select only households that participated in the ASEC supplement (*asecflag = 1*). The data set includes information on each person in a household; therefore, we select only the first person response (*pernum = 1*) to avoid double counting.

To reproduce Table 1, we divide households into income brackets using total household income (*hhincome*). For example, we assign households to the bracket $10,000 to $14,999 if *hhincome* ≥ *10,000* and *hhincome* < *15,000*, where "≥" means greater than or equal to and indicates the end point of $10,000 is included in the bracket and "<" indicates less than and means the endpoint of $15,000 is excluded from the bracket. Note that *hhincome* reports household income from the previous year, and therefore, the Census income tabulations of 2024 household income rely on the March 2025 sample of the ASEC, and we should similarly use the 2025 sample for 2024 incomes.

The CPS follows a multi-stage stratified random sampling methodology, which means that the data is subdivided into geographic primary sampling units, and within each primary sampling unit, households are further subdivided by labor force status and other socioeconomic characteristics. The purpose of this sampling methodology is to ensure that the sample includes households with a diverse set of characteristics and geographies, while avoiding drawing more observations than needed from highly populated locations. This means that different households have different likelihoods of being selected to participate in the CPS, and that we must therefore use the provided sample weights (*asecwth* for households, *asecwt* for persons) to construct nationally representative tabulations and estimates. In simple terms, the sample weights tell us the number of households with the same characteristics as the sampled unit. Therefore, to tabulate the number of households in each income bracket for the United States, we simply assign each household in the sample to an income bracket with *hhincome*, and then, because each household corresponds to one sample unit, we sum the values of *asecwth* for each bracket.

To calculate the average income in a given income bracket, B, we take the weighted average income, by multiplying *hhincome* by *asecwth* for each household within a bracket, and then dividing by the number of households in the bracket, given by the sum of *asecwth*. In particular, we compute:

$$\sum_{h \in B} (hhincome_h * asecwth_h) / \sum_{h \in B} asecwth_h,$$

where $hhincome_h$ represents the value of *hhincome* for household h, and $h \in B$ represents the set of all households belonging to bracket B. To tabulate the total and

13 https://www.r-project.org/.

mean number of adults and children for households in each income bracket, we assign households to income brackets, and then we consider all persons in each household and sum the person level sample weights (*asecwt;* no *pernum* filter), and divide it by the sum of the household-level sample weights (*asecwth;* with *pernum = 1*). This gives us the total number of persons within each bracket from *asecwt*, which we divide by the total number of households within each bracket from *asecwth.* To get the mean number of children and adults in each household, we use the same strategy, but filter by age of each person (*age*). We follow the Census Bureau's definition and consider anybody under the age of 18 to be a child, and anybody aged 18 or older to be an adult. We sum *asecwt* separately for children and adults to tabulate the total children and adults in each bracket, and then we divide each by the total number of households from *asecwth.* Following these steps yields all tabulations in Table 1 and Table 2, which we can then use to compute the Net Cost of UBI estimates in Table 3.

Table 5 reports the results of this exercise, with selected columns from the first three tables replicated using the IPUMS CPS ASEC microdata. As previously warned, these tabulations do not exactly match the Census provided tabulations, due to processing that the microdata undergoes to preserve confidentiality. A comparison between the two tables shows that differences are generally small, and typically only a few percentage points different; with the one exception being the mean number of children for households with an income under $5,000. It should be noted that in both the Census tabulation and this tabulation, household income includes all income including income from child support, public assistance, and other government programs such as social security income and unemployment benefits. For simplicity, we exclude administrative costs, which at 0.7 % are reasonably treated as negligible.

Despite the minor differences in tabulations, Table 5 shows that the calculations based on the IPUMS public-use microdata CPS ASEC supplement yield a remarkably similar final result for the overall cost of UBI. Table 5 reports a Net Cost of UBI of $606.8 billion based on the microdata tabulations compared to a Net Cost of UBI of $601.3 billion in Table 3 from the calculations based on the Census tabulations.

Now that we have validated both approaches to calculating Net UBI costs, we can make further use of the public-use microdata. Instead of calculating the total UBI benefit for each income bracket based on the mean income and number of adults and children, we compute UBI benefits at the household-level, and then aggregate across all households in each income bracket. We do this for both 2015, with a basic income of $12,000 per adult and $6,000 per child, and for 2024, with a basic income of $16,000 per adult and $8,000 per child, to allow for comparison with previous calculations. For example, if a household has combined income of $22,000 in 2024, and the household contains two adults and three children, then the UBI benefit would be $2 \times \$16{,}000 + 3 \times \$8{,}000 = \$56{,}000$.

Table 5: Calculation of the cost equation to find the net cost of UBI of $16,000 for adults and $8,000 for children with a marginal tax rate of 50 %, using tabulations from IPUMS CPS ASEC household microdata.

	A (Table 1)	B (Table 1)	D (Table 2)	E (Table 2)	J (Table 3)	L (Table 3)
Income of household	**Number of households**	**Mean income (Y)**	**Mean number of children**	**Mean number of adults**	**UBI (U) (millions)**	**Net benefit/ net cost (N) (millions)**
Under $5,000	3,845,796	$1,036	0.39	1.42	$99,160.42	$97,080.43
$5,000 to $9,999	1,759,977	$7,602	0.39	1.44	$45,914.91	$39,225.15
$10,000 to $14,999	4,021,127	$12,574	0.28	1.27	$90,736.29	$65,456.06
$15,000 to $19,999	3,954,990	$17,310	0.27	1.30	$91,046.25	$56,815.56
$20,000 to $24,999	4,662,865	$22,249	0.29	1.38	$113,927.05	$62,054.10
$25,000 to $29,999	4,447,814	$27,162	0.37	1.45	$116,141.97	$55,736.96
$30,000 to $34,999	4,713,680	$32,077	0.44	1.57	$134,679.84	$59,078.40
$35,000 to $39,999	4,520,429	$37,069	0.41	1.59	$129,668.88	$45,884.48
$40,000 to $44,999	4,307,591	$41,963	0.49	1.68	$132,315.06	$41,934.54
$45,000 to $49,999	4,560,240	$47,170	0.43	1.68	$137,991.34	$30,439.11
$50,000 to $54,999	4,518,349	$51,903	0.43	1.71	$139,424.45	$22,166.78
$55,000 to $59,999	3,914,368	$57,056	0.50	1.79	$127,905.00	$16,236.09
$60,000 to $64,999	4,330,192	$61,813	0.53	1.86	$147,293.67	$13,462.27
$65,000 to $69,999	3,486,679	$67,130	0.43	1.90	$118,212.25	$1,182.09
Total						$606,752.01

Sources and explanations: each column corresponds to a column from a previous table. The corresponding table and column for each calculation is reported on the first row. A. The number of households in each range of income. Source: IPUMS CPS ASEC 2025 sample, for previous year (2024) income, with ASECWTH as household survey weights. B. The average income of households in each range. Source: IPUMS variable HHINCOME (total household income), weighted by ASECWTH. D. The average number of children in each household: calculated as total children (AGE < 18, weighted by ASECWT sample person weight) divided by number of households from A. E. The average number of adults per household: calculated as total adults (AGE ≥ 18, weighted by ASECWT person weight) divided by number of households from column A. J. UBI grants: total UBI payments in millions of dollars. Calculated as (number of adults × $16,000) + (number of children × $8,000). The total number of adults and children are from the previous calculations, where the number of children is the number of households in each bracket times the mean number of children per household in that bracket. L. Net benefit/net Cost: UBI grants minus taxes, in millions of dollars. Calculated as column J minus (total household income × 50 % tax rate). Total household income is computed as number of households (A) times mean income (B). Adding overhead costs of 0.7 % gives a net comparable cost of $611.0 billion.

Although this number may seem high compared to the median individual income for adults in the United States of $40,000 in 2024, this number is significantly below the mean and median household income for households with the same composition of adults and children. The UBI benefit is roughly half the median household income of $110,024 in 2024 and slightly more than a third of mean household income of $155,180 for households with two adults and three children in 2024, which we calculate using the ASEC data. It should be noted that the true mean income is likely to be substantially higher than our estimate, as household income is the sum across individual income categories across all individuals in a household, and the Census data are right-censored, which means that high individual incomes are replaced with a maximum value when they exceed a threshold, which varies by year and category of income. The Census Bureau does this to preserve the privacy of high-income earners, who are few enough to become potentially identifiable from making this kind of information public. In 2024, the top household income in our sample was $3,335,097.

With our household-level microdata, we can alternatively calculate the Total Net Cost of UBI across only those households that are Net Beneficiaries. For example, excluding a single adult household with a household income of $40,000; as their UBI benefit would be $16,000 compared to a tax of $20,000, leaving the household as a net contributor to the UBI scheme. These totals are reported in the row for Subtotal for Households Earning less than $69,999, revealing a net cost of UBI of $671.2 billion in 2024 and $782.6 billion in 2015, adjusted for inflation.

Table 6 shows that calculations based on household-level UBI grants and taxes yield similar results to the bracket-based approaches. When computing the total net cost of UBI, we include in the total only those households for which the Net Benefit of UBI exceeds the Net Cost. We find a Total Net Cost of a $16,000 per adult UBI equal to $783.7 billion in 2024, when summed across income brackets that are net beneficiaries in 2024. Similarly, we find a net cost of $896.7 billion in 2024 dollars for 2015, adjusted for inflation. If we do not adjust for inflation, then we would estimate a net cost of $589.6 billion for households earning $69,999 or less (or $675.4 billion for all net beneficiary households), compared to the calculation of $535 billion for the net cost of UBI excluding administrative costs from Table 4 of Widerquist's 2017 article.

Table 6 corrects for two sources of bias in Widerquist (2017). First, the back-of-the-envelope method fails to fully follow the assumption that the marginal tax rate goes to zero at the break-even point. It applies the 50 % tax rate to the relatively small-sized households with incomes over the break-even point of their household size but below the break-even point of the average household. Therefore, it effectively applies the 50 % to any income they make over their breaking point and subtracts that contribution from its estimate of the total benefit to net beneficiary households. Second, the back-of-the-envelope method fails to include the financial benefit to

Table 6: Net beneficiary households only – comparison of UBI cost calculations for 2015 (in 2024 dollars) and 2024, using tabulations from IPUMS CPS ASEC household microdata.

	2015 UBI calculations (in 2024 dollars)			2024 UBI calculations		
	A	J	L	A	J	L
Income of household (2024 dollars)	Number of net beneficiary households	UBI (U) (millions of dollars)	Net benefit (N) (millions of dollars)	Number of net beneficiary households	UBI (U) (millions of dollars)	Net benefit (N) (millions of dollars)
Under $5,000	3,897,994	$100,177.67	$98,213.39	3,845,796	$96,853.20	$94,773.22
$5,000 to $9,999	1,804,965	$49,020.07	$42,102.90	1,759,977	$44,707.14	$38,017.38
$10,000 to $14,999	4,529,728	$103,264.83	$74,651.50	4,021,127	$88,480.45	$63,200.22
$15,000 to $19,999	5,081,726	$124,746.57	$79,893.58	3,954,990	$89,487.53	$55,256.84
$20,000 to $24,999	4,724,416	$122,548.74	$69,350.28	4,662,865	$111,380.95	$59,508.00
$25,000 to $29,999	5,153,779	$141,277.09	$70,751.31	4,447,814	$113,359.52	$52,954.51
$30,000 to $34,999	3,994,385	$128,940.33	$64,724.88	3,552,763	$112,114.75	$55,893.59
$35,000 to $39,999	3,030,160	$117,748.09	$60,467.70	2,449,790	$92,974.26	$47,475.40
$40,000 to $44,999	2,501,210	$99,214.77	$46,212.60	2,518,329	$99,610.83	$46,775.07
$45,000 to $49,999	2,988,303	$122,715.89	$52,117.94	2,567,222	$101,965.67	$41,429.00
$50,000 to $54,999	2,842,951	$117,309.07	$42,729.75	2,589,621	$103,733.23	$36,473.56
$55,000 to $59,999	2,521,154	$104,972.26	$32,284.22	2,394,754	$99,523.32	$31,102.59
$60,000 to $64,999	2,191,031	$93,993.49	$25,615.95	2,561,858	$107,936.17	$28,855.61
$65,000 to $69,999	1,236,839	$65,150.39	$23,497.48	981,554	$52,440.93	$19,468.37
$70,000 to $79,999	2,495,647	$132,421.48	$38,355.20	2,344,604	$123,110.62	$35,848.77
$80,000 to $99,999	3,289,056	$189,870.92	$42,876.12	3,228,524	$185,787.88	$43,128.68
$100,000 to $149,999	2,202,438	$157,316.98	$29,491.36	2,235,837	$158,301.01	$28,919.88
$150,000 or more	251,013	$25,567.45	$3,371.48	315,453	$31,983.87	$4,627.97
Subtotal for Households Earning less than $69,999	46,498,640	$1,491,079.26	$782,613.48	42,308,460	$1,314,567.96	$671,183.37

Table 6: (continued)

	2015 UBI calculations (in 2024 dollars)			2024 UBI calculations		
	A	J	L	A	J	L
Income of household (2024 dollars)	**Number of net beneficiary households**	**UBI (U) (millions of dollars)**	**Net benefit (N) (millions of dollars)**	**Number of net beneficiary households**	**UBI (U) (millions of dollars)**	**Net benefit (N) (millions of dollars)**
Households Earning $70,000 or more	8,238,154	$505,176.83	$114,094.16	8,124,418	$499,183.38	$112,525.31
Total	54,736,794	$1,996,256.09	$896,707.65	50,432,877	$1,813,751.34	$783,708.67

Sources and explanations: this table reports calculations for only households that are net beneficiaries of the UBI program (households where UBI grant > 50 % marginal tax liability), where 2015 household income is converted to 2024 dollars using the CPI to adjust for inflation. This adjusted income is used for bracket assignment and tax calculation. A. The number of net beneficiary households in each income bracket (2024 dollars). Source: IPUMS CPS ASEC microdata. J. UBI grants: total UBI payments to net beneficiary households only, in millions of dollars. Both years use $16,000/adult + $8,000/child in 2024 dollars. L. Net Benefit: Total net benefit received by net beneficiary households (UBI grant minus tax on adjusted income), in millions of 2024 dollars.

relatively large-sized net-beneficiary households with incomes below the break-even point for their household size but above the break-even point for the average household. The presence of these biases (both of which lead to underestimation) indicates the value of the slightly more sophisticated analysis with household-level data presented here.

Table 6 presents our best estimate of the cost of UBI using 2024 data: $783.7 billion per year. Net-beneficiary households earning $70,000 or more contribute significantly to that cost: $112.5 billion. This estimate is higher than the back-of-the-envelope approach by $177 billion or 29.2 %.

However, it confirms many observations first identified by the back-of-the-envelope method. It confirms that the net cost of UBI is relatively low as a fraction of GDP: 2.67 % rather than 2.05 %. It confirms that the net cost of UBI is relatively small as a fraction of federal spending (11.6 % rather than 9 %). It confirms that the cost of UBI has fallen over the last 9 years both relative to GDP and in total inflation-adjusted cost, decreasing from $896.7 billion in 2015 to $783.7 billion in 2024 (a drop of 12.6 %).

One might ask why the back-of-the-envelope method wasn't farther off given that it incorporates two significant sources of bias both in the same direction. The answer is that both biases primarily involve households that are relatively near the break-even point (one way or the other), and so any undercount of their benefit or contribution is small.

4 Part Four: Household-Level Estimates of the Net Cost of UBI, 1967–2024

This section reports the results of the Net Cost of Basic Income across all years with available microdata from IPUMS CPS ASEC, specifically 1967–2024 (using previous year income data collected from 1968 to 2025 samples). We adjust for inflation using the Consumer Price Index for All Urban Consumers from the Bureau of Labor Statistics, by multiplying household income by the value of the CPI in 2024, and dividing it by the CPI in the year in which income data was provided. For example, to convert household income from 2015 dollars to 2024 dollars we do the following calculation,

$$\text{2015 Income in 2024 Dollars} = \text{2015 Income in 2015 Dollars} \times \left(\frac{\text{CPI in 2024}}{\text{CPI in 2015}}\right),$$

and equivalently for other years. After converting all monetary units to 2024 dollar equivalents, we follow the calculation procedures outlined in the previous section with a UBI grant for each household equivalent to $16,000 for each adult and $8,000 for each child in 2024 dollars. We then compute the Net Cost as the difference

between the household's UBI grant and the household's tax burden with a 50 % marginal tax rate applied to inflation-adjusted household income. We then calculate the total net cost of the UBI scheme among all households that are net beneficiaries, i.e. households with non-UBI incomes below the specific break-even point for their household. Unlike the exercise in Table 3, which considers households only in brackets that are net beneficiaries (i.e. earning less than or equal to $69,999 in 2024 dollars), in this exercise we compute the Net Cost among net beneficiary households across all income brackets.

For example, a two adult, two child household earning an income of $90,000 has a net benefit of $3,000 (UBI grant of $48,000 minus a 50 % marginal tax equal $45,000). That $3,000 would be excluded from the earlier calculations, but is included in these updated net cost calculations. Therefore, the net costs we report here are mechanically greater than a bracket-based approach that considers only across the subset of households in brackets where the average household is a net beneficiary of the UBI plan.

We report these net costs alongside inflation-adjusted total government spending (FRED Series: W068RC1A027NBEA) and GDP (FRED Series: GDPA) from the U.S. Bureau of Economic Analysis, which we download from the Federal Reserve Bank of St. Louis FRED database. We convert both series to 2024 dollars by the CPI, instead of by alternative deflators such as the GDP deflator, to avoid introducing discrepancies with inflation-adjusted household income and UBI grants. These measures offer a simplified estimate of the capacity to fund the net costs associated with a given UBI plan and of how the magnitude of these costs compared to current government spending.

Table 7 reports the results of these calculations on 5-year intervals between 1970 and 2020, along with the total from 1967 to 2024 (the first and last years of our available data). Column R reports the number of net beneficiary households across all income brackets. The gross amount of UBI payments to these households, calculated using the number of adults times $16,000 and children times $8,000 in each household, is given in Column S. The total net cost of UBI payments is calculated on a household-by-household basis by subtracting taxes equal to 0.50 times household income from gross UBI payments to the household, and the total net cost across all households in R is reported in column T. For comparison, we provide total government spending in column U and GDP in column V, with the series as described in the previous paragraph. As a reminder, all monetary units were adjusted for inflation and converted to 2024 dollars using the CPI.

Table 7 shows that, although the number of households that would be net beneficiaries of the inflation-adjusted UBI scheme has increased by over 30 percent from 37.9 million households in 1970 to 50.4 million households in 2024, the Net Cost of UBI in 2024 of $783.7 billion is only around 13 percent higher than the Net Cost in

Table 7: Net cost of UBI, 1967–2024, in 2024 dollars.

	R	S	T	U	V	W	X
Year	Number of net beneficiary households	UBI (U) (billions of 2024 dollars)	Net benefit/cost (N) (billions of 2024 dollars)	Total government spending (billions of 2024 dollars)	GDP (billions of 2024 dollars)	Net UBI cost as percentage of total government spending	Net UBI cost as percentage of GDP
1967	39,115,074	$1,736.46	$755.52	$2,455.35	$8,082.92	30.77 %	9.35 %
1970	37,914,151	$1,643.45	$691.75	$2,757.23	$8,668.34	25.09 %	7.98 %
1975	41,224,326	$1,669.22	$689.10	$3,359.15	$9,819.80	20.51 %	7.02 %
1980	44,293,528	$1,719.91	$719.56	$3,562.50	$10,880.01	20.20 %	6.61 %
1985	45,015,551	$1,724.33	$747.73	$4,363.91	$12,649.89	17.13 %	5.91 %
1990	45,038,447	$1,707.08	$734.87	$4,934.87	$14,316.92	14.89 %	5.13 %
1995	47,990,384	$1,793.84	$779.04	$5,356.05	$15,727.26	14.54 %	4.95 %
2000	46,480,685	$1,718.21	$727.11	$5,723.39	$18,675.13	12.70 %	3.89 %
2005	50,319,646	$1,845.39	$808.52	$6,912.58	$20,947.60	11.70 %	3.86 %
2010	55,910,351	$2,076.51	$945.78	$8,392.71	$21,647.62	11.27 %	4.37 %
2015	54,736,794	$1,996.26	$896.71	$8,154.19	$24,215.47	11.00 %	3.70 %
2020	50,720,832	$1,837.52	$801.57	$11,146.49	$25,903.92	7.19 %	3.09 %
2024	50,432,877	$1,813.75	$783.71	$10,424.08	$29,298.01	7.52 %	2.67 %

Sources and explanations: all monetary values converted to 2024 dollars using the consumer price index (CPI) for all urban consumers from the U.S. Bureau of Labor Statistics. Downloaded from FRED as series CPIAUCSL. Year: income year for which UBI is calculated. R. Number of net benefit households: count of households across all income brackets that receive more in UBI than they pay in taxes. Source: IPUMS CPS ASEC microdata, using survey year = income year + 1, weighted by ASECWTH. S. UBI (U): total UBI grants paid to net benefit households, in billions of 2024 dollars. UBI = $16,000/adult + $8,000/child (2024 dollars). T. Net benefit/cost (N): total net benefit to households (UBI grants minus taxes), in billions of 2024 dollars. Tax = 50 % of household income, with negative incomes set to zero. U. Total government spending: total government spending in billions of 2024 dollars. Source: FRED series W068RC1A027NBEA, converted to 2024 dollars using CPI. V. GDP: gross domestic product in billions of 2024 dollars. Source: FRED series GDPA, converted to 2024 dollars using CPI. W. Net UBI cost (column T) as percentage of total government spending (column U). X. Net UBI cost (column T) as percentage of gross domestic product (column V).

1970 of $691.8 billion. Some of this change can be attributed to changes in household composition between 1970 and 2024. In 1970, the mean household had 2.0 adults and 1.1 children, compared to 1.9 adults and 0.5 children in 2024. The UBI scheme presented here would benefit 96.6 million adults and 33.5 million children (for a total of 130.1 million people) across 50.4 million households in 2024, compared to 76.2 million adults and 52.8 million children across 37.9 million households in 1970.

Figure 1 reports the Net Cost of UBI across all net beneficiary households for each year between 1967 and 2024, according to the above calculations, reported as a percentage of total government spending and GDP, where as mentioned above, total government spending is defined as the federal, state, and local spending combined. Between 1970 and 2024, GDP grew by 338 % and Total Government Spending increased by 378 %, both adjusted for inflation. Note that the ASEC underwent a redesign in 2014 with a split sample, with 5/8 of the sample answering the previous questions and 3/8 receiving redesigned income questions. We use the 5/8 sample (as indicated by the IPUMS-CPS ASEC variable *hflag* = 0), in our cost estimates for that year, however, our estimates are comparable if we use the 3/8 sample. Figure 1 highlights the general downward-sloping trend.

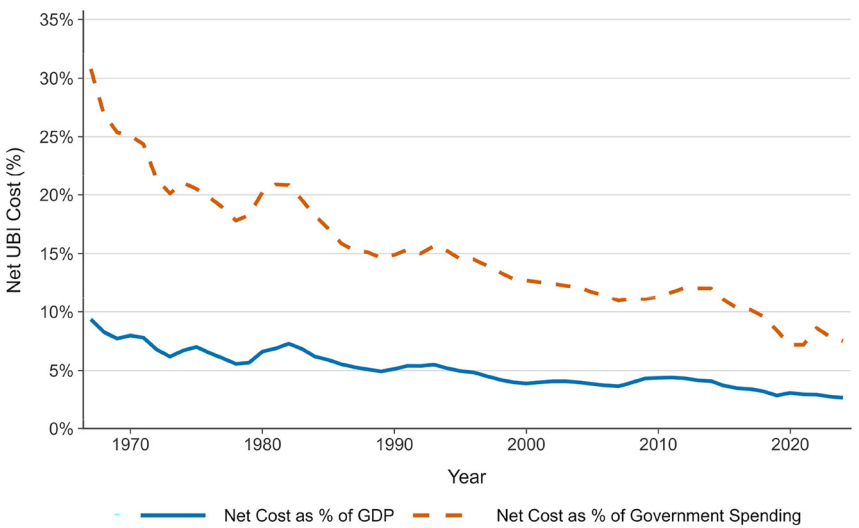

Figure 1: Annual net cost of inflation-adjusted UBI grants of $16,000 per adult and $8,000 per child in 2024 dollars with a 50 % marginal tax rate, reported as a percentage of inflation-adjusted GDP and total government spending in 2024 dollars, 1967–2024.

Despite a well more than tripling of GDP, a substantial number of American households remain in poverty – indicating that we cannot expect the benefits of economic growth to trickle down to common people without active government intervention. However, the half century of GDP growth has made UBI an increasingly affordable policy that could eliminate poverty and ensure that the benefits of economic growth are shared beyond the top one-to-ten percent of the population.

5 Part Five: Discussion

This article has shown that the cost of UBI is low and it has been declining as a percentage of GDP for more than half a century. According to our calculations based on the most recent available U.S. data (from 2024), the net cost of a poverty-line UBI with a 50 % marginal tax rate on all non-UBI income is $783.7 billion per year. That means the United States could eliminate official poverty at an increased cost of only 23 % of current entitlement spending, 11.6 % of federal spending, 7.5 % of total government spending across all levels (federal, state, and local), and only about 2.67 % of GDP.[14] The cost as a percentage of GDP has fallen steadily over the last 57 years from 9.35 % of GDP in 1967 to 4.95 % in 1995, 3.70 % in 2015, and 2.67 % in 2024.

Several factors account for the trend toward a decreasing cost of UBI. The U.S. poverty rate is an "absolute" measure of poverty, which means that it varies only with the cost of goods and not with national income. Relative poverty measures, such as those commonly used in Europe, vary with median household income and follow trends in per capita GDP. For an absolute measure of poverty, one should expect the cost to decline every year as GDP rises while the cost of UBI tied to a relative measure of poverty is likely not to decline as much over time. The increase in GDP over the last 9 years has been significant, from $18.3 trillion in 2015 to $29.3 trillion in 2024 (both figures in current dollars). During the same period, the poverty rate declined from 13.5 % to 10.6 %. That means fewer people have incomes in the net-beneficiary range and fewer of them are at the lower end of that range. These factors reduce both net cost in dollars and the cost-to-GDP ratio.

The estimates here significantly improve on Widerquist's (2017) back-of-the-envelope methodology. Although that methodology gets into the ballpark with an estimated cost of 2.95 % of GDP in 2015, a more accurate estimate would have been 3.70 %. The back-of-the-envelope methodology correctly identifies a trend in declining cost as a percentage of GDP between 2015 and 2024, although it underestimates the costs in both years. The current cost of 2.67 % in 2024 is already below Widerquist's estimate for 2015, so the news of declining costs is at least as

14 Authors' calculations from https://federalsafetynet.com/entitlement-programs/entitlement-spending/.

significant as the news of improving on the accuracy of the earlier study. The back-of-the-envelope methodology estimated that the net cost of a poverty-line UBI was one-seventh of its gross cost. Our improved method estimates it at one-sixth.

This UBI scheme would drop the official poverty rate from 10.6 % to approximately 0 %, lifting 35.9 million people (including 10.5 million children) out of poverty.[15] The number of people living within 150 % of the poverty line would also drop substantially, but Census Bureau tables used here do not provide a good way to estimate how many.

The benefits of this policy extend well into the middle-income range. Our findings show that 130 million people will be net beneficiaries at any given time. It is likely that 50–100 million more people could expect to be net beneficiaries at some point in their lives. That is, this program will have a positive impact on a very large portion of the American people over the course of their lives. UBI would also relieve the fear of poverty for everyone whether they have ever been a net financial beneficiary. Therefore, once in place, the potential to build a broad constituency that will protect the program from attack is strong – perhaps as strong as Social Security.

The analysis above applies only to the issue of how much UBI costs in isolation. This article includes no rigorous analysis either of how to integrate that UBI into the existing tax and transfer system or of how to "pay for" that cost (i.e. of how to ensure the $783.7 billion in additional goods net contributors are likely to demand do not push up prices).[16] However, given the promising results for the cost of UBI, it is worthwhile to briefly address issues of financing UBI and integrating it into the existing tax and benefit system.

Some macroeconomists emphasize that the U.S. economy tends to have chronic underutilized capacity and that new government spending targeted to take up that capacity can be consistent with stable prices even without accompanying tax increases, bond sales, or cuts in other spending.[17] We don't assume UBI can be resourced by excess capacity, partly because, if and when the U.S. decides to use tax and spending policies to eliminate excess capacity, many different policies will compete to be that policy. Even if all excess capacity is taken up by other spending

15 Poverty statistics from https://www.congress.gov/crs-product/IN12607.

16 Technically, all government spending is paid for by money creation. The government doesn't need to "raise money" by taxes to make spending possible. Taxes are one method to counteract the inflationary effects of spending. To emphasize that point, some economists prefer to refer to this as "resourcing" spending rather than "paying for" or "financing" it. See Widerquist, "Functional Finance and the Sustainability of Universal Basic Income."

17 See for discussion Widerquist (2024a).

policies, it is possible to finance UBI in a way that counteracts any inflationary pressure it creates.

At a cost of only 11.6 % of total federal spending, one can imagine paying for the UBI entirely by reducing other spending, such as unnecessary parts of the defense budget, corporate giveaways, the portion of transfers that UBI might make redundant, or whatever else one might be willing to cut. If these cuts are sufficient to counteract any inflationary pressure UBI would create, the United States could permanently free every American from the threat of poverty with no net increase in taxes. Of course, donor-class money creates difficult political barriers that inhibit cuts to these parts of the U.S. federal budget, and so this strategy is not as easy as it sounds. If we are able to overcome donor-class resistance, we should both reduce giveaways to and increase taxes on the donor class.

The goal of UBI overlaps with many other transfers, some of which could reasonably be replaced by UBI. However, if this is done at all, it should be done on a "hold-harmless" basis. That is, by avoiding all changes that would make any net beneficiary financially worse off. The net benefit of UBI would replace – at most – a similar amount of other transfers. For example, a UBI making a net transfer of $16,000 to an individual would replace up to the first $16,000 per year of that person's Social Security benefits, but it would not replace any benefits they receive above $16,000 per year.

The main advantage of hold-harmless replacement is self-explanatory from its name: the UBI movement is not about shifting around the money the United States is currently spending to help low-income people; it is about a major increase in our commitment to greater equality between the very wealthy and everyone else, most especially the least advantaged. Hold-harmless implementation helps attain that goal. The main disadvantages of hold-harmless implementation are that it retains a great deal of the complexity of the current system and that it passes up opportunities for additional savings.

Many transfers cannot reasonably be replaced by UBI. These include, for example, transfers related to medical care, education, veterans' benefits, and in many areas, housing.

Our illustrative UBI plan is partly integrated into the existing system in one sense, because our 50 % income surtax rate applies to all non-UBI income including any other transfer payments they might receive. For example, an individual receiving $20,000 per year in a combination of transfer payments when the UBI was introduced would receive the $16,000 UBI and would pay $10,000 tax on their non-UBI benefits raising their final income from $20,000 to $26,000 rather than to $36,000 as it would if UBI were simply added to the existing system with no benefit programs

replaced and no effective surtax on other benefits. This level of integration might strike some readers as sufficient.

As for integrating UBI into the tax system, the increasing inequality in the U.S. and most other wealthy countries over the last 50 years indicates that higher taxes on the wealthiest households are economically feasible and ethically desirable. Therefore, policymakers should seriously consider resourcing UBI primarily by tax increases targeted at the wealthiest people. Taxes targeting this group include land value taxes, rent and resource taxes, pollution taxes, a wealth tax, higher capital gains taxes, higher progressive income taxes targeted at high-income households, and so on. Again, this will involve overcoming the power of donor-class campaign contributions.

These are just a few ways to finance (or resource) UBI. Exactly how to do so is not the subject of this article. This article argues UBI is affordable, that its cost has been declining for decades, and that its cost is likely to continue to decline in the future. The more affordable something becomes, the more options become available to make it happen. How rich do we have to get before we decide that no one's income should be so low that they are forced to sleep on the street?

As mentioned in Part One, adopting the illustrative UBI plan without further adjustments to the tax system would create extremely high marginal tax rates for some net beneficiaries. Let's take a brief look at the issue. Consider a family of two adults and two children. Their combined UBI is $48,000. Their break-even point is $96,000. They would be eligible for the standard tax deduction of $29,200, so that income taxes would add nothing to their marginal tax rate over that range, but Social Security and Medicare Payroll Taxes together would add 7.65 %, making their combined marginal tax rate 57.65 % on income subject to payroll taxes. Income taxes would begin at 10 % on private income over $29,200, making the effective rate 67.65 % to $54,000, where the income tax rate goes up to 12 %, making the effective rate, just below 70 % (69.65 %) until the break-even point, at which the surtax would disappear and their combined marginal tax rate would fall to 19.65 % until their income reached $143,000.

This means that when this family's private income was below $29,200, a $1,000 raise would increase their after-tax/after-transfer income by $424. As they neared the break-even point, a $1,000 raise would raise their final income by $315. Reducing the combined marginal tax rate will increase the benefit of the UBI program to net beneficiaries, but therefore, it will also increase its net cost. A promising area for future research is to estimate the cost of a UBI that caps effective marginal tax rates at

50 % (or lower). Such a study would have to look closely at how UBI interacts with all other taxes and transfers.

Three issues mitigate the marginal-tax-rate problem even within our illustrative UBI plan. First, it affects only a relatively small portion of net beneficiaries over a fairly narrow range of income as their incomes approach the break-even point.

Second, high marginal tax rates over a relatively narrow range of income at the upper end of the net recipient range might not be a major work disincentive. Policymakers will probably want to replace most other taxes that affect this group, but they probably do not need to replace all of them to avoid major problems with work disincentives.

Third, although people in this range of income face higher *marginal* tax rates, all net beneficiaries (by definition) face a *lower* net tax burden. The reason policymakers would want to keep *marginal* tax rates low is not to decrease any *burden* of net beneficiaries but to give them a greater work incentive. For example, a raise in private income from $35,000 to $50,000 increases total income of the family in the above example from $62,000 to $67,000. Even though they face high marginal tax rates, their effective tax bill (taxes minus transfers) is negative all the way up to the break-even point. If one were to reject UBI because of the marginal-tax-rate issue, one would not be doing net beneficiaries any favors. One would be doing a favor for potential employers, who benefit whenever people have more incentive to spend more time working for money.

Unfortunately, the complexity of the U.S. tax-and-transfer system makes it difficult to estimate how many households will be affected, to what extent, over what range of income without a more sophisticated analysis, but some evidence indicates that the cost of reducing marginal tax rates is not prohibitive.

Data from the Congressional Budget Office for taxes and transfers by quintile shows that average households in the bottom three quintiles (60 % of the population) receive more in transfers than they pay in taxes.[18] Again, not all of these could be replaced by a UBI, but these figures indicate the potential for savings from replacing transfers to people at the lower end of the income distribution is greater than the potential cost of replacing taxes paid by people at that end of the distribution.

We cannot assume that the additional savings and costs associated with integrating UBI into the existing tax-and-benefit system cancel each other out, but aside from this brief discussion, this article leaves these costs out for several reasons. First, the goal of the article is to isolate the cost of UBI in and of itself. The cost of UBI is one thing. The cost of integrating it into the existing system is another. Second, there are many different ways that a UBI can be integrated into the existing tax-and-benefit system, and the question of exactly how to do so is controversial. By

18 Congressional Budget Office (2016, p. 31).

isolating the cost of UBI in and of itself, this article avoids imposing any one integration strategy and calling that *the* cost of UBI. Third, the cost of UBI in isolation is useful to know and a good starting point toward a full assessment of the possible transition to a UBI-based system. However, pricing options for how to integrate a UBI based along these lines into the existing tax-and-benefit system is a promising area for future research.

Other areas for future research include examining the dynamic effects of UBI. Poverty and inequality have enormous costs for the individuals affected and for society as a whole. These costs are well-documented, as is evidence that a UBI will greatly reduce the costs associated with poverty both in human and in financial terms.[19] Estimates suggest that these savings could pay for a great deal of the cost of UBI.[20] Also, a UBI is likely to increase wages among the lowest paid workers in the least attractive sectors because it allows people with exploitative jobs to quit without becoming destitute. As employers are forced to increase wages and improve working conditions for less attractive jobs, additional budgetary savings and social benefits will arise. The importance of these effects deserves the attention of future research.

The low price of the poverty-level UBI implies that a higher version is also likely to be affordable. This possibility is worth considering in part because the official poverty threshold is widely criticized for being too low. Some researchers find that households need an income of at least 150 % of the poverty level, perhaps more, to afford basic expenses.[21] Thus, Appendix Tables 1 and 2 repeat the above analysis for a UBI of $24,000 for adults and $12,000 for children with the original marginal tax rate of 50 %. Table 1 uses Widerquist's (2017) methodology for 2024 data. Table 2 reports estimates generated by our improved household-level methodology for selected years from 1967 to 2024.

The back-of-the-envelope methodology finds a net cost of $1.67 trillion. Our improved methodology finds a cost of $1.93 trillion, 18.51 % of government spending and 6.59 % of GDP (Appendix Table 2, Column X). This figure is down by two-thirds – from 21.88 % in 1967. Therefore, this more-generous UBI plan is affordable and becoming more affordable year-after-year.

This UBI scheme can ensure that every American has an income at least 150 % of the poverty line and that very few would have incomes less than 200 % of the poverty line. It is less than half of total entitlement spending in 2024. Again, no UBI can replace all transfers, but one this large could certainly replace many of them. Of course, this program would cause even bigger marginal-tax-rate issues, if combined

19 Wilkinson and Pickett (2009), Widerquist (2024b).

20 Pereira (2017).

21 Dinan (2009).

with the existing tax system, and the cost of reducing those rates would be substantial.

The figures presented here use simple data and assumptions. More detailed studies with more refined data and more sophisticated methods are warranted. All such studies should clearly distinguish between the gross and net cost of UBI and focus the main thrust of their analysis on the meaningful figure, net cost. They should estimate the cost of UBI in isolation, (various options for) the potential savings from replacing other transfers, and the additional costs associated with (various options for) replacing other taxes. Some of the promising questions for future research include the following:

- Examine the same illustrative UBI-in-vacuum plan using different data and different methodology to see if it produces a similar estimate.
- Examine the costs and/or savings of some of the options for integrating a plan like this one into the existing tax and transfer system – most especially what is the cost of capping the combined marginal tax rate at 50 %?
- Examine the dynamic effects of a UBI plan like this one
- Examine how to "finance" or "resource" a UBI plan like this one (i.e. what taxes will most judiciously counteract the inflationary pressure a UBI of this size will inject into the economy?)

We are confident in saying that more sophisticated study will not change the basic results that the real cost of a UBI is far less than its gross cost and that the cost as a percentage of GDP and as a percentage of total government spending has been declining for decades. The portrayal of the gross cost of a UBI as if it reflects anything about UBI's actual redistributive effects or financing issues is naïve at best and dishonest at worst.

Perhaps the most striking result of this article is how affordable either of these versions of UBI is. When one considers what a UBI can do – eliminate the threat of poverty for every citizen while providing an enormous effective tax reduction for many middle-income households – the cost of 2.67 % of GDP for a poverty-line UBI (or 6.59 % of GDP for the more generous 150%-poverty-line UBI) is a bargain.

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Data availability: Replication data and code to reproduce the tables and figures in the main text are available at: https://doi.org/10.5281/zenodo.18141486.

Appendix

See Appendix Tables A1 and A2 and Figure A1.

Table A1: Cost of UBI 24K adults, 12K children, 50 % effective tax rate.

Appendix Table: Cost of UBI 24K adults, 12K children, 50% effective tax rate

Column:	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Income of Household	Number of house holds	Mean income per household	Mean size of household	Mean number of children	Mean number of adults	Number of persons	Number of Children	Number of Adults	Total Income before taxes and transfers (Y)	UBI (U)	Taxes (Y x t)	Net Benefit/Net Cost (N)	Mean net subsidy per Household	Mean net income per household	Mean net income per person before taxes and transfers	Mean net subsidy per person	Mean net income per person
Under $5,000	3,840,000	$1,038	2.50	0.54	1.96	9,600,000	2,063,040	7,536,960	$3,985,920,000	$205,643,520,000	$1,992,960,000	$203,650,560,000	$53,034	$54,072	$415	$21,214	$21,629
$5,000 to $9,999	1,760,000	$7,602	1.81	0.39	1.42	3,185,600	684,585	2,501,015	$13,379,520,000	$68,239,374,720	$6,689,760,000	$61,549,614,720	$34,971	$42,573	$4,200	$19,321	$23,521
$10,000 to $14,999	4,009,000	$12,570	1.83	0.39	1.44	7,336,470	1,576,607	5,759,863	$50,393,130,000	$157,155,991,164	$25,196,565,000	$131,959,426,164	$32,916	$45,486	$6,869	$17,987	$24,856
$15,000 to $19,999	3,945,000	$17,310	1.55	0.33	1.22	6,114,750	1,314,060	4,800,690	$68,287,950,000	$130,985,282,700	$34,143,975,000	$96,841,307,700	$24,548	$41,858	$11,168	$15,837	$27,005
$20,000 to $24,999	4,652,000	$22,250	1.58	0.34	1.24	7,350,160	1,579,549	5,770,611	$103,507,000,000	$157,449,247,392	$51,753,500,000	$105,695,747,392	$22,720	$44,970	$14,082	$14,380	$28,462
$25,000 to $29,999	4,407,000	$27,180	1.67	0.36	1.31	7,359,690	1,581,597	5,778,093	$119,762,260,000	$157,653,591,428	$59,881,130,000	$97,762,261,428	$22,183	$49,363	$16,275	$13,283	$29,559
$30,000 to $34,999	4,698,000	$32,080	1.83	0.39	1.44	8,597,340	1,847,568	6,749,772	$150,711,840,000	$184,165,339,608	$75,355,920,000	$108,809,419,608	$23,161	$55,241	$17,530	$12,656	$30,186
$35,000 to $39,999	4,518,000	$37,070	2.01	0.43	1.58	9,081,180	1,951,546	7,129,634	$167,482,260,000	$194,529,773,016	$83,741,130,000	$110,788,643,016	$24,522	$61,592	$18,443	$12,200	$30,643
$40,000 to $44,999	4,301,000	$41,960	2.00	0.43	1.57	8,602,000	1,848,570	6,753,430	$180,469,960,000	$184,265,162,400	$90,234,980,000	$94,030,182,400	$21,862	$63,822	$20,980	$10,931	$31,911
$45,000 to $49,999	4,551,000	$47,170	2.17	0.47	1.70	9,875,670	2,122,281	7,753,389	$214,670,670,000	$211,548,702,204	$107,335,335,000	$104,213,367,204	$22,899	$70,069	$21,737	$10,553	$32,290
$50,000 to $54,999	4,509,000	$51,910	2.11	0.45	1.66	9,513,990	2,044,556	7,469,434	$234,062,190,000	$203,801,082,588	$117,031,095,000	$86,769,987,588	$19,244	$71,154	$24,602	$9,120	$33,722
$55,000 to $59,999	3,905,000	$57,050	2.14	0.46	1.68	8,356,700	1,795,855	6,560,845	$222,780,250,000	$179,010,542,040	$111,390,125,000	$67,620,417,040	$17,316	$74,366	$26,659	$8,092	$34,751
$60,000 to $64,999	4,338,000	$61,810	2.29	0.49	1.80	9,934,020	2,134,821	7,799,199	$268,131,780,000	$212,798,629,224	$134,065,890,000	$78,732,739,224	$18,150	$79,960	$26,991	$7,926	$34,917
$65,000 to $69,999	3,480,000	$67,130	2.39	0.51	1.88	8,317,200	1,787,366	6,529,834	$233,612,400,000	$178,164,404,640	$116,806,200,000	$61,358,204,640	$17,632	$84,762	$28,088	$7,377	$35,465
$70,000 to $74,999	4,056,000	$72,090	2.33	0.50	1.83	9,450,480	2,030,908	7,419,572	$292,397,040,000	$202,440,622,176	$146,198,520,000	$56,242,102,176	$13,866	$85,956	$30,940	$5,951	$36,891
$75,000 to $79,999	3,596,000	$77,030	2.39	0.51	1.88	8,594,440	1,846,945	6,747,495	$276,999,880,000	$184,103,218,128	$138,499,940,000	$45,603,278,128	$12,682	$89,712	$32,230	$5,306	$37,536
$80,000 to $84,999	3,550,000	$81,990	2.37	0.51	1.86	8,413,500	1,808,081	6,605,439	$291,064,500,000	$180,227,266,200	$145,532,250,000	$34,695,016,200	$9,773	$91,763	$34,595	$4,124	$38,719
$85,000 to $89,999	3,128,000	$87,060	2.57	0.55	2.02	8,038,960	1,727,573	6,311,387	$272,366,240,000	$172,204,169,952	$136,183,120,000	$36,021,049,952	$11,512	$98,592	$33,883	$4,480	$38,363
$90,000 to $94,999	3,056,000	$92,090	2.63	0.57	2.06	8,037,280	1,727,211	6,310,069	$281,427,040,000	$172,168,162,336	$140,713,520,000	$31,454,642,336	$10,293	$102,383	$35,015	$3,914	$38,929
$95,000 to $99,999	2,800,000	$97,190	2.59	0.54	1.96	7,000,000	1,504,300	5,495,700	$272,132,000,000	$149,948,400,000	$136,066,000,000	$13,882,400,000	$4,958	$102,148	$38,876	$1,983	$40,859
$100,000 to $104,999	3,273,000	$101,900	2.56	0.55	2.01	8,378,880	1,800,621	6,578,259	$333,519,700,000	$179,485,664,256	$166,759,350,000	$12,726,314,256	$3,888	$105,788	$39,805	$1,519	$41,324
$105,000 to $109,999	2,562,000	$107,100	2.61	0.56	2.05	6,686,820	1,436,998	5,249,822	$274,390,200,000	$143,239,708,584	$137,195,100,000	$6,044,608,584	$2,359	$109,459	$41,034	$904	$41,938
$110,000 to $114,999	2,353,000	$112,000	2.78	0.60	2.18	6,541,340	1,405,734	5,135,606	$263,536,000,000	$140,123,352,408	$131,768,000,000	$8,355,352,408	$3,551	$115,551	$40,288	$1,277	$41,565
$115,000 to $119,999	2,256,000	$117,100	2.76	0.59	2.17	6,226,560	1,338,088	4,888,472	$264,177,600,000	$133,380,387,072	$132,088,800,000	$1,291,587,072	$573	$117,673	$42,428	$207	$42,635
Total (where appropriate)	87,543,000					190,593,030	40,958,442	149,634,588	$4,853,286,330,000	$4,082,731,414,236	$2,426,643,165,000	**$1,656,088,249,236**					
Average or weighted average (as appropriate)		$55,439	2.18	0.47	1.71								$18,917	$74,356	$25,464	$8,689	$34,153
Total plus administrative costs												**$1,667,680,866,981**					

Column explanations and sources on following page

Sources and explanations: rows identify income ranges in increments of $5,000. Source: U.S. Census bureau table HINC-06, 2024. A. The number of households in each range of income. Source: U.S. Census bureau table HINC-06, 2024. B. The average income of households in each range. Source: U.S. Census bureau table HINC-06, 2024. C. The average number of people in each household in each range. Source: HINC-01, 2024. D. The average number of children in each household: author's calculation, column C times the percentage of child population (21.49 % calculated as 2024 Census bureau estimates for the population of persons under 18 (73.1 million) divided by the total population (340.1 million). E. The average number of adults per household (column 3 minus column 4). F. The number of people in each income range. Number of households times mean number of persons per household. G. The estimated number of children in each range: author's calculations, column F times 21.49 % (see source information for column C). H. The number of adults in each range. Number of persons minus number of children (column F minus column G). I. The total private income of all families in each income range before taxes and transfers (Y in the cost equation). Number of households times mean income. J. The total amount of UBI grants paid to families in each income range (G in equation 1). Number of children times $8,000 plus number of adults times $16,000. K. The amount of taxes paid by families in each income range ($Y \times t$ in the cost equation). Total income (Y) times 50 % (t). L. The net cost/net benefit of the UBI (C in the cost equation). UBI minus taxes. The total amount of money transferred to people in each income range. M. The average net subsidy received by families in each income range. UBI divided by number of households in each income range. N. Average net income per household. Average net subsidy plus average income. O. Average net income per person. Average net household income (column N) divided by the average number of persons per household (column C). P. Average net subsidy per person. Average net subsidy per household (column M) divided by the average number of people per household (column C). Q. Average net income per person. Mean net income per household (column N) divided by the average number of people in each household (column C).

Table A2: Net cost of UBI scheme of $24,000 per adult and $12,000 per child with a 50 % marginal tax rate, 1967–2024, in 2024 dollars.

	R	S	T	U	V	W	X
Year	Number of net beneficiary households	UBI (U) (billions of 2024 dollars)	Net benefit/cost (N) (billions of 2024 dollars)	Total government spending (billions of 2024 dollars)	GDP (billions of 2024 dollars)	Net UBI cost as % of total government spending	Net UBI cost as percentage of GDP
1967	51,325,056	$3,353.86	$1,768.28	$2,455.35	$ 8,082.92	72.02 %	21.88 %
1970	52,072,297	$3,349.11	$1,685.32	$2,757.23	$ 8,668.34	61.12 %	19.44 %
1975	57,567,439	$3,485.67	$1,708.45	$3,359.15	$ 9,819.80	50.86 %	17.40 %
1980	63,114,196	$3,674.67	$1,780.29	$3,562.50	$10,880.01	49.97 %	16.36 %
1985	64,048,210	$3,674.77	$1,809.09	$4,363.91	$12,649.89	41.46 %	14.30 %
1990	65,254,792	$3,711.67	$1,798.60	$4,934.87	$14,316.92	36.45 %	12.56 %
1995	68,901,785	$3,861.07	$1,887.74	$5,356.05	$15,727.26	35.24 %	12.00 %
2000	68,938,532	$3,829.30	$1,808.40	$5,723.39	$18,675.13	31.60 %	9.68 %
2005	73,135,135	$4,029.68	$1,962.24	$6,912.58	$20,947.60	28.39 %	9.37 %
2010	78,690,319	$4,358.99	$2,203.60	$8,392.71	$21,647.62	26.26 %	10.18 %
2015	78,514,986	$4,288.32	$2,122.47	$8,154.19	$24,215.47	26.03 %	8.76 %
2020	74,223,258	$4,039.90	$1,946.09	$11,146.49	$25,903.92	17.46 %	7.51 %
2024	75,210,724	$4,077.34	$1,929.29	$10,424.08	$29,298.01	18.51 %	6.59 %

Sources and explanations: all monetary values converted to 2024 dollars using the consumer price index (CPI) for all urban consumers from the U.S. Bureau of Labor Statistics. Downloaded from FRED as series CPIAUCSL. Year: income year for which net cost of UBI is calculated. R. Number of net beneficiary households: count of households across all income brackets that receive more in UBI grants than they pay with the 50 % marginal tax on non-UBI income. Source: IPUMS CPS ASEC microdata, using survey year = income year + 1, weighted by ASECWTH. S. UBI (U): total UBI grants paid to net beneficiary households, in billions of 2024 dollars. UBI = $24,000/adult + $12,000/child (2024 dollars). T. Net benefit/cost (N): total net benefit to net beneficiary households (UBI grants minus taxes), in billions of 2024 dollars. Tax = 50 % of household income, with negative incomes set to zero. U. Total government spending: total government spending in billions of 2024 dollars. Source: FRED series W068RC1A027NBEA, converted to 2024 dollars using CPI. V. GDP: gross domestic product in billions of 2024 dollars. Source: FRED series GDPA, converted to 2024 dollars using CPI. W. Net UBI cost (column T) as percentage of total government spending (column U). X. Net UBI cost (column T) as Percentage of gross domestic product (column V).

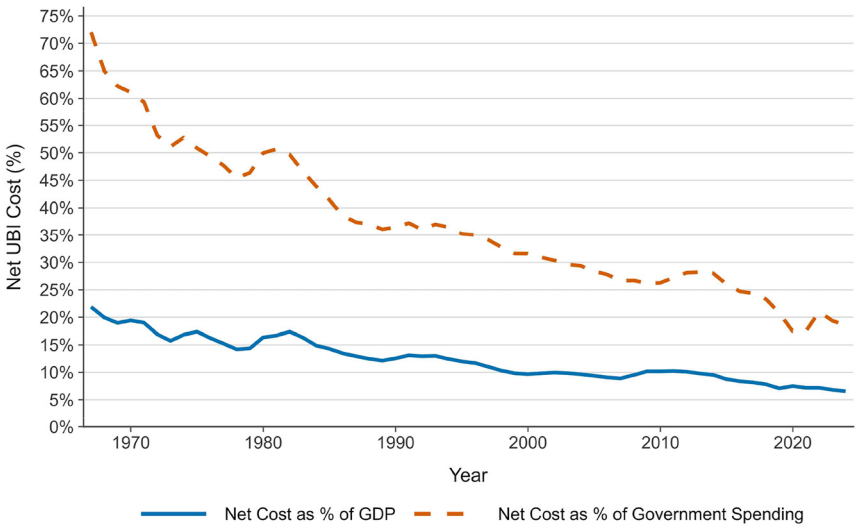

Figure A1: Annual net cost of an inflation-adjusted UBI scheme of $24,000 per adult and $12,000 per child in 2024 dollars, with 50 % marginal tax rate as a percentage of GDP and total government spending, 1967–2024.

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