Introducing the LUD

a locally-issued currency that leverages tax credits to achieve universal basic income without additional dollar-denominated taxation

White paper by Richard W. DeVaul Ph.D, **devaul.eth**

Copyright © 2021, 2022, 2023 Richard W. DeVaul. This document may be freely distributed for non-commercial purposes provided that it is unaltered and this copyright/license notice remains intact. The addition of commentary is welcome, provided that such commentary is clearly an addition and not an alteration of the original text, and that any such additions are freely redistributable under terms identical to the original document.

abstract

In this white paper, we describe a novel local monetary instrument, the LUD (short for Local UBI Dollar), and make an argument for how the introduction of the LUD might support human flourishing and beneficial economic activity. The LUD concept builds on core ideas from macroeconomics and the empirically demonstrated benefits of Universal Basic Income (UBI) and allows local governments to provide direct support to their residents without increasing USD-denominated taxes or increasing USD-denominated deficits. Similarly, the LUD provides a funding mechanism for public employment programs adjacent to the Universal Jobs Guarantee of MMT. Importantly, the LUD provides a market-based, self-stabilizing mechanism for managing inflation in the LUD supply that depends only on a floating market exchange rate and a tax discount rate controlled by the local government.

acknowledgments

The author would like to acknowledge the constructive criticism and feedback of a number of reviewers and looks forward to hearing from more as this proposal is revised and developed. In particular, we would like to thank: Conrad Shaw @theUBIguy, Lily Zheng @lilyzheng308, Jesse Hercules @JesseHercules, and Spencer Connaughton @spenc3rc for detailed feedback and review.

introduction

the problem

We believe that the growing inequality in income distribution and wealth in the US (and elsewhere in the world) is effectively taking more and more money out of circulation. This lack of liquidity is driving unemployment and underemployment, encouraging the growth of personal debt, and trapping people in marginal gig economy jobs. (For an extended discussion of this problem, please see the companion Medium piece, **Why we need the LUD: the Local UBI Dollar**).

a solution: creating the Local UBI Dollar, or LUD

Logically, if the problem to solve is a lack of money circulating in the real economy, then the solution is to add money. But it matters how you do this — in the wake of the 2008 Great Recession, the Quantitative Easing program by the Federal Reserve effectively printed money and gave it to banks and other holders of US Treasury notes, which was supposed to stimulate the economy. The results were underwhelming: a long, tepid recovery combined with rapidly rising asset prices that only exacerbated the underlying income and wealth distribution skew.

Then the global pandemic struck in early 2020 resulting in an economic crash and a massive spike in unemployment, going from a low of approximately 3.5% in late March to as high as 14.5% in mid April.

This crisis resulted in the passage of the CARES act, a very different intervention than the QE of 2008. Instead of giveaways to banks, the CARES act resulted in loans to small businesses for payroll support and substantial direct payments to individual Americans. This was so effective at offsetting the negative effects of double-digit unemployment that poverty rates actually dropped compared to their pre-pandemic levels.

The solution, therefore, is to get more money into the hands of the people who will actually spend it — the non-rich, in other words — to make them more able to afford the basic goods and services. Think of this as quantitative easing for poor people.

The US government could do this by continuing its policy of payroll support and direct payments to individuals, but this seems unlikely given the current political climate. Instead, we propose a mechanism that is entirely under the control of local governments: the creation of a direct payment and public employment system based on a Local UBI Dollar, or LUD.

To see how this is possible, it is necessary to explore aspects of both Modern Monetary Theory (MMT) and Universal Basic Income (UBI).

theoretical underpinnings of the LUD: macroeconomics and UBI

The idea of UBI, or Universal Basic Income, is a relatively old one, though recently brought to the fore of public consciousness by (among others) Andrew Yang's advocacy of the concept during the 2020 US Presidential Election. The premise of UBI is that by providing every citizen, regardless of means, a fixed and reliable source of income separate from employment or traditional means-tested government programs, we can substantially reduce poverty and increase quality of life and boost economic activity.

One challenge of UBI is paying for it. A nation-state with a central bank can literally print more money to support social programs if desired, but traditionally municipalities don't have that option — they must first tax citizens in order to spend. This has traditionally limited the scope and ambition of local UBI programs. However, if it were possible for a local government to issue its own currency, and for that currency to be treated as a valuable medium of exchange, then this problem could be solved.

As we will see later, there is nothing stopping a municipality in the US from issuing its own currency. However, what would support the demand for such a currency?

A core tenet of economics is that market demand creates fungible value, and that in a macroeconomic lens the demand for a fiat currency is what supports the value of a currency. Governments have traditionally supported demand for a currency through taxation denominated in that currency. We usually think of this in terms of a national government and a nationally-issued fiat currency, but the same principle can be applied to other forms of government and money.

In this paper we propose a new form of currency, a locally-issued currency, for which demand is supported by the local government offering a preferential discount for payment of tax obligations. Another lens to look at this local currency is as a kind of fungible tax credit. By issuing this currency to citizens of a municipality, and by providing the incentive of discounted tax obligations, businesses and individuals will be incentivized to trade for it. Further, if this currency is given to everyone in modest quantities, those who have the least will benefit the most, and thus the aims of universal basic income may be achieved.

This currency, the LUD we describe In this paper, can be seen as one approach to implementing a workable form of local-scale UBI that can be implemented without increasing taxes, and in a way that is responsive to local economic conditions. And from a set of local currencies, a national solution can be bootstrapped[1].

[1] As per recent correspondence with Conrad Shaw @theUBIguy, it is clear that the benefits of UBI or similar support grow as they become more universal. Locality is a feature of this proposal only inasmuch as it speeds adoption and experimentation.

the challenges of UBI

While there has been considerable debate over the morality or practicality of UBI, few economists argue against the benefits of direct payments to individuals as a means to alleviate poverty. Indeed, direct giving is so effective that in effective altruism circles direct giving is now considered the gold standard in non-health, non-education interventions[2]. Thus, objections to UBI tend to fall into two buckets: moral hazard, and expense.

moral hazard

The moral hazard of UBI is said to be the way it inherently devalues work. There are other quasi-moral arguments to be made as well, such as that UBI does nothing to end capitalism[2].

We know that there is a significant reduction in poverty and associated suffering that can be achieved with a UBI-adjacent, direct-giving approach. This benefit is not hypothetical, and is achievable right now. Indeed, the CARES act direct payments in the US demonstrate that even at a massive scale, the operational challenges with giving virtually everyone money are very surmountable, and the benefits significant at the macroeconomic and personal levels.

We believe that the real and present human suffering that can be alleviated right now with UBI significantly outweighs the hypothetical moral hazard of devaluing productive work. Furthermore, the value of productive work in the form of physical labor has been rapidly decreasing since industrialization, and the value of knowledge work is under increasing pressure in the last 30 years from information technology and AI; Any hypothetical negative effect from UBI would be late to the party by centuries.

But UBI does not devalue or reduce work. The evidence from UBI experiments suggests that rather than displacing productive work, UBI increases entrepreneurial activity and economic activity[3].

For all of these reasons, we recast the question as: how can it be moral *not* to implement UBI in a society with the means to do it?

paying for UBI

Having dispensed with the moral hazard argument, how do we pay for UBI? From the MMT perspective, a currency issuer like the US government could, if it wanted to, simply create the UBI dollars out of thin air, as the US government has done in the recent pandemic response. And without rehashing the entire MMT argument, there is no reason to believe that this is an unsustainable answer, as long as a careful eye is kept on inflation.

---

[2] See [4] and [5] among other sources on the efficacy of direct giving in poverty reduction and improvement in quality of life.

the LUD: local UBI supported by a local currency

Convincing the US government to embrace UBI on an ongoing basis, as opposed to a one-time pandemic response, may be difficult. However, it might be possible to convince a state or local government to try an experiment with UBI, as several have done at small scale. But how could this be paid for on a larger scale?

A currency user like a state or local government entity does not have the option of creating USD[3] (or other national currency) from thin air, but it may have a related option — the option of issuing its own currency, which for the purposes of this discussion we will call the "LUD," short for Local UBI Dollar. And in the vein of MMT, the local government can create a demand for the LUD by allowing taxes and fees to be paid in this local currency at a discount to paying in dollars[4].

Can you do that? Can you just create a currency?

Yes. While there may be academic debate as to whether Article I, Section 10 of the US Constitution applies to local governments, as a practical matter individuals, banks, and corporations have been creating their own currencies for hundreds of years. Operationally, we can do this. And in the absence of litigation or a court precedent to the contrary, there is no reason to think this isn't a legal thing here in the US.

To maintain monetary sovereignty, the LUD issuer will need to create a market for LUD/USD exchange with a *floating exchange rate*, thus allowing the issuer to create as many LUDs as needed to support local economic health[5]. At the same time, to maintain a demand for the currency the issuer will need to accept LUDs at a discount (say, at least 15% discount to the USD) for paying taxes and fees.

By regularly issuing LUDs to all residents, and particularly to those who are marginalized by the dollar economy, the issuer can boost local economic activity. By allowing those who do business in the city to pay for concessions, fees, sales taxes, etc., those businesses will have a strong incentive to accept the currency.

---

[3] The USD should be considered a placeholder for the dominant national currency, which might be the Euro, the Yen, *etc.,* depending on the jurisdiction.
[4] The stronger requirement that taxes and fees be paid in LUDs might run afoul of "legal tender" rules that require (for example) US institutions to accept the US dollar in payment. However, even if it were possible to mandate the LUD in tax or fee payment it would not necessarily be desirable, as this would remove an important currency stability mechanism, as described later in this paper.
[5] For a discussion of this, see the "is it OK to keep printing LUDs?" section below

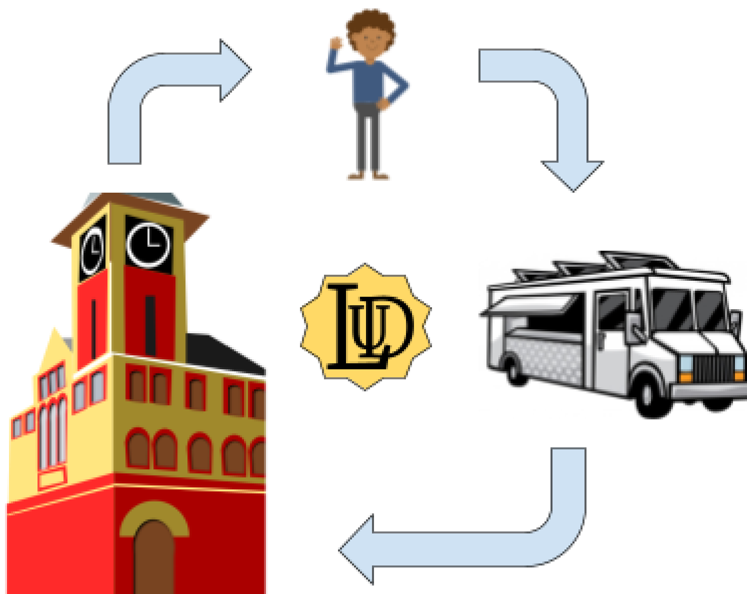
LUDs as Quantitative Easing for poor people

Rather than saying the goal of the LUD is to pay for UBI, another valid rationale is to say that the reason to create a LUD is to engage in a kind of local-economic, social-good quantitative easing, which is to say expanding the money supply in such a way as to get more money into the hands of less-well-off local people who will then spend it locally. Strictly speaking this could be done without a direct giving component, perhaps utilizing only a public employment program to distribute the money. However, there seems to be no reason not to incorporate a direct giving component as it will most directly achieve the social goal of getting local money into the hands of those most likely to spend it locally.

Why call it the LUD?

To be clear, LUD is a placeholder. We don't expect any instance of the LUD to be called the LUD, because if successful we expect there to be many different local currencies operating in this way, and differentiation in name would be important to reduce confusion. For example, when working on this idea the author envisioned a San Francisco local currency called the **SFD,** or **Norton**, in honor of Emperor Norton, one of San Francisco's eccentric 19th century luminaries who among many other notable feats issued his own currency, which (according to legend) was for a time accepted by local businesses and banks.

Life Cycle of the LUD



The goal of the LUD is to support the humans who participate in the local economy.

The issuer is the local government, who periodically grants LUDs to local residents as a form of UBI. The LUD may also be used by the government to purchase goods and services from local vendors.

Local businesses have an incentive to accept LUDs

as payment, as they can be used to pay local taxes and fees at a discount.

Businesses return LUDs to the issuer in the form of taxes and fees, or recirculate them in the local economy in the form of wages or payments for other goods and services.

NOTE: this is not a zero-sum cycle, as the currency issuer is not constrained by a fixed LUD pool. Over time, the circulating pool of LUDs should grow with the local economy, resulting in a surplus of circulating LUDs, which would appear as a corresponding LUD “deficit” on the books of the issuer. As per the wisdom of MMT, this deficit should be more properly considered an aggregate surplus value to the community rather than any kind of real obligation on the part of the issuer.

To increase the supply of LUDs in the economy, the issuer simply increases the frequency or amount of LUDs granted to residents or decreases the discount rate on tax/fee payment. To decrease the supply, the issuer offers a more favorable discount on existing taxes and fees if paid in LUDs vs. USD, as explained in the **LUD/USD market exchange** section below.

Is it OK to keep printing LUDs?

The question of “is it OK to keep printing LUDs” is very similar to the question of “is it OK to keep printing USD?” From the perspective of MMT, we care about the size of the money supply only in relation to what it does to the economy. As long as there is sufficient demand for the currency, the answer is pretty much “yes, print more.” But in order to establish demand, remove money that is being less effective, or to tax behaviors you don’t like, taxation is also an important mechanism. From the MMT perspective, neither deficits or surpluses are considered bad or good in and of themselves, but only in relation to what they do for the economy.

The interaction between the demand of the issuer (the local government that provides a discount for paying taxes and fees in LUDs) and the floating exchange market in which the issuer participates should provide a natural mechanism for regulating the LUD supply, ensuring that the demand for the currency never outstrips supply, and that the supply is never excessively inflated.

However, this condition of supply-demand balance could hold, and the total capitalization of the LUD could still be too small to move the needle for expanding local economic activity. We want the demand to be large so that the LUD plays a meaningful role.

the LUD as a kind of fungible tax credit

Traditional economists may balk at the notion of LUDs as currency, in particular the notion of a currency that is summoned from thin air and then taken out of circulation by taxation may sound alien. Instead, consider the LUD as a kind of transferable tax credit. From this perspective, the issuer is effectively offering an overall tax cut, but in the form of tax credits that are transferable, which is to say the LUD. By giving LUDs (on a proportional basis) more to the less-well-off, the

local government is encouraging local businesses to trade with that group to receive these tax credits. In return, the less-well-off receive direct benefits in the form of locally-provided goods and services and the local economy is boosted. From this perspective, the LUD isn't money per-se, but serves an adjacent role in the economy as an instrument of local tax policy.[6]

Won't the total capitalization of the LUD be constrained to the outstanding value of the issuer's taxation?

The same question could be asked about any fiat currency issued by any monetary sovereign. Or, put another way, is the capitalization (total value) of the USD constrained to the size of the tax/fee obligation imposed by the US government? No, of course not. The collective tax obligation denominated in dollars is large, but it is still a modest fraction of the US GDP. The total value of the USD is many times larger, as it functions as the world's reserve currency. Or, put another way, the USD is valuable not because of US government demand, but because people believe that it is valuable.

Similarly, the demands for the LUD created by the issuer offering a discount on paying taxes and fees in LUDs primes the pump, but the mechanism that establishes the value of the LUD is the interaction between the LUD/USD exchange and the overall demand for LUDs in the local economy. It's valuable precisely to the extent that people believe that it is valuable, and that they can spend it and convert it to USD as necessary.

If everyone tried to sell LUDs at once, the market would crash. But it's also true that if everyone tried to pull their savings out of a bank, the bank would go under. Deposit insurance provides a backstop for banks, but this is rarely tested. Mostly banks have a backstop of belief. Likewise, the way in which the LUD is described, promoted, and rolled out will have a tremendous impact on the collective belief in the LUDs value. A strategy for the progressive rollout of the LUD, and the proper size of the LUD pool as a function of population will be the subject of a future paper.

UBI, UJG, and the LUD

Some authors use the term UBI to refer to a fixed, reliable support equivalent to a full living wage, however this is more properly *a full basic income*. While it is conceivable that the LUD could eventually be used to provide a full basic income, it is more likely a practical implementation would begin by providing a lower level of support, or partial basic income, so as to build support for the new currency in the economy.

A lower level of support can still be very beneficial. Indeed, the economic and humanitarian value of regular monthly payments equivalent to 500-1,500USD is considerable, as our recent practical experiment in pandemic support payments in the US has shown.

[6] Special thanks to Spencer C. for raising this point of objection and allowing us to develop the LUD-as-tax-credit argument.

In addition to “universal” (in the sense of being granted to all local residents) regular support in the form of LUD payments, the LUD issuer could also operate a public jobs program adjacent to the Universal Jobs Guarantee of MMT with wages funded partly or completely through the issuance of LUDs. At least some of these jobs could be in direct support of the LUD program itself.

As an experienced project, program, and people manager, the author is aware that the funding for a job is often the least challenging aspect of creating meaningful and beneficial employment. Having the LUD as a job funding mechanism does not in any way reduce the challenge of implementing a UJG-adjacent program in a way that creates meaningful, broadly beneficial societal value while also supporting the education and career development of the workers. But by reducing the constraints on funding such a program the LUD at least partly crosses off the “how do we pay for it” part of the question.

It may be worth noting that part of the justification for the UJG in MMT is to create an automatic fiscal response to changing business conditions that does not require the intervention of the legislature to adjust spending levels. However, in our framework, a very similar automatic mechanism is built into the interaction of the LUD/USD exchange rate and the tax/fee discount rate, as described below. We believe that this, combined with the UBI-adjacent direct payments, achieves the same economic and social benefits of the MMT UJG without the attendant complexity associated with operating a massive public-sector employment program, without forestalling the implementation of a public employment option.

LUD/USD market exchange

To facilitate the use of LUDs in the local economy, the issuer should make a LUD/USD exchange market, with a floating exchange rate. This will allow businesses that have surplus LUDs to exchange them for conventional currency, and will allow those who wish to acquire LUDs (perhaps to pay taxes and fees) a way to get them that does not involve retail commerce.

The value of the LUD in this exchange will be supported by the LUD discount on paying taxes and fees relative to the USD. For example, if the issuer offers a 15% discount in paying taxes in LUDs (*i.e.* a 100USD fee payable with 85LUD), then it makes sense to pay as much as 1.17USD per LUD in the exchange market. Note that this discount supports an exchange rate, but it does not set the rate — if there are excess LUDs available for trade, then we could see the exchange rate drop to 1:1 or even lower. As the exchange rate drops, it becomes more and more favorable to pay taxes/fees in LUDs rather than dollars, thus taking excess LUDs out of circulation.

This floating exchange rate provides the primary signal by which the issuer can track the availability of the LUD in the local economy and provides a stabilizing mechanism to automatically take excess LUDs out of circulation. Since a higher discount rate on tax/fee payment will tend to take more LUDs out of circulation, and a lower would encourage more

LUDs to stay in circulation, this rate may be periodically tuned to adjust the supply of LUDs and keep the exchange rate stable.

LUD Exchange Friction

It's important to introduce some friction to the exchange in order to encourage LUD holders and businesses to trade with each other directly for goods and services. These fees would be charged both for USD to LUD and LUD to USD exchange and be denominated in USD.

By making these fees proportional to trade volume over some period of time, say a week, this will tend to smooth out volume and make the exchange rate less volatile, as it will encourage larger transactions to be spread out over a longer interval.

For example, each participant in the exchange might pay a fee that is graduated based on weekly volume. No fee on the first 100USD/week exchanged, 2% on any amount over the 100USD to 1000USD, 5% on any amount over 1000USD, 10% on amounts above 1000USD/week.

The fees produced from the exchange would go to support the exchange itself, with any surplus going to the currency issuer.

A note on LUD speculation

The goal of the LUD is to support the humans who participate in the local economy, not to provide yet another speculative currency investment opportunity.

Like any relatively small-capitalization currency, the LUD exchange could be subject to manipulation by well-capitalized or well-leveraged traders. However, this risk should be manageable. First, speculative attacks should be easy to detect, since any rise in the LUD/USD exchange rate above the “rational” value of 1.0/(1.0-discount rate) would be a cause for concern, as would any sudden drop in the exchange rate signaling a dumping of LUDs into the exchange.

Since the issuer can always print new LUDs, keeping the exchange rate below a target threshold should be simple enough, at the risk of growing the LUD supply beyond a sustainable target. Similarly, dumping of LUDs into the exchange might result in the temporary condition of highly discounted payment of taxes in fees, but this would have been previously offset by a corresponding influx of USD to the issuer when the now-excess LUDs were purchased.

The preceding is only true if the market is relatively liquid and the issuer is actively monitoring and participating in the exchange.

Implementation of the LUD

There are a number of plausible LUD currency implementations, ranging from physical tokens or coins to stored value cards to an app-based digital currency, each with a different set of cost/benefit tradeoffs.

As a practical matter, the challenges and expense of producing, issuing, and handling coinage or difficult-to-counterfeit paper currency may limit the use of a purely physical token, though presumably this could also create significant public employment opportunities. The option of having the absolute anonymity of a cash-equivalent LUD could create benefits, but also potentially increased risk of fraud and embezzlement.

Alternatively, a digital currency with a centralized or distributed ledger could present a number of advantages in ease of issuing and managing LUDs, and could provide a high degree of transparency to the issuer in how the currency moves through the local economy. However, this would require users to use some form of digital wallet, creating access barriers, and the traceability of such transactions might put off some users.

A digital ledger would facilitate the management of the LUD, and allow for a straightforward implementation of a managed LUD/USD market, as well as a straightforward mechanism for crediting LUD-based payment of taxes and fees.

On top of this digital ledger one could provide a range of interfaces, such as a web-based service, a smartphone app or a stored value card.

An app-based interface could provide a number of advantages. First, it could provide added layers of security and authentication, including the ability to issue currency in real-time to those in a bounded geographic area. Second, it could support person-to-person transactions without a bank, merchant, or other intermediary. Third, if it were properly cross-platform such an app could allow for the fast rollout and fast adoption of the currency, leveraging the smartphones that are increasingly ubiquitous. Finally, an app-based implementation could allow for additional controls, such as only automatically crediting those LUD accounts for users within a specified geographic locale, and the ability to confirm the validity of location data by means of opportunistic peer-to-peer token exchange. Rather than going to city hall or a kiosk for LUD credits, all an authorized user would have to do would be spend the night in the city with their phone and receive a day’s worth of LUDs.

For those without access to a smartphone, a LUD ledger interface built on top of RFID stored value cards like those used for prepayment of metro fares might be reasonable. If the RFID stored value cards were compatible with existing touchless payment systems and the RFID readers in phones, merchants could process LUD transactions with POS systems they already have, or with the LUD smartphone app. This could also support peer-to-peer value exchange between users with smartcards and apps.

In a well-thought-out system, none of these options are mutually exclusive. Physical tokens could encode digital credentials, and apps and stored value cards could all interact with the same underlying ledger system. So perhaps "all of the above," at least as an option, can be available if proper attention is given to the implementation.

Conclusions

This discussion only scratches the surface of what could be done with a locally issued currency designed to support human flourishing through direct payments and public employment. And although the concept of the LUD as described here should be considered a rough draft, we believe the idea can be refined into a genuinely functional, practical, and powerful approach.

Although radical on the face of it, the concept of the LUD is based on well-reasoned, empirically observable principles from MMT, and makes no theoretical departures from the core monetary and fiscal foundations of the discipline. Becoming a currency issuer allows local governments to take the initiative in implementing beneficial social programs without the traditional budgetary constraints of local government, namely that of being a currency issuer that must first get the money before it can be deployed.

There are real constraints on the issuance of any currency, namely that of inflation, and a poorly managed local currency would not provide much in the way of real benefits. However, we believe that the approach outlined here would allow a local government to derive real benefits from issuing their own currency, provided that it is managed appropriately.

The author welcomes any constructive criticism and feedback on this paper. Thank you for your attention and consideration.

References

1. ***The Deficit Myth***, by Stephanie Kelton https://stephaniekelton.com/book/
2. Universal Basic Income or a Job Guarantee?, The Gower Initiative for Modern Monetary Studies
3. Creative citizen, creative state: the principled and pragmatic case for a Universal Basic Income, RSA, The Royal Society for Arts, Manufactures and Commerce
4. Cash transfers evidence paper — published by UK Department for International Development – Catherine Arnold with Tim Conway and Matthew Greenslade.
5. Overview on Existing Research on Cash Transfers — summary of direct giving by givedirectly.org