

Roadmap to a Government-Independent Basic Income (UBI) Digital Currency

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TLDR

This paper examines the challenges involved in designing and implementing a new currency whose objective is to permanently provide some level of universal basic income (UBI). We do this by approaching the discussion from six different perspectives: economic policy, adoption, governance, unique identity, technology, and principles. We highlight some promising strategies for currency adoption and identity validation, and note that using decentralized architecture may offer unique advantages but also pose technical challenges. We conclude that creating a new, government-independent currency may be a promising way to circumvent certain political barriers around UBI. However, if the goal of such a currency is not explicitly to coexist with the nation-state currency and government structure, then it is implicitly a challenge to it.

Keywords: basic income guarantee (BIG), blockchain, economic security, censorship-resistance, citizen-centered monetary regime, cryptocurrency, crypto-anarchism, crypto-commonism, debt jubilee, decentralization, distributed governance, Distributed Ledger Technology (DLT), e-democracy, Modern Monetary Theory (MMT), monetary expansion, quantitative easing for the people, Sybils, unique identity, universal basic income (UBI)

1. INTRODUCTION

Universal basic income (UBI) is enough an alien concept that it still registers as “unthinkable” for most of the world, far outside the window of discourse¹. Although it dates as far back as the 1500s, its tacit implausibility (“free money?”) has stymied critical examination over the past few centuries. This creates an atmosphere in which governments are particularly resistant to UBI; the political machine is notoriously slow to adopt policies that suffer from poor comprehension in the public sphere. Nonetheless, in recent years a number of government-independent efforts have emerged attempting to bring these ideas to fruition.

But if UBI itself is so radical, how could it possibly succeed without government assistance? We argue that a permanent guaranteed income is perfectly feasible from the standpoint of traditional economics; bringing the idea to life is primarily a political challenge, which is why an independent platform presents a viable approach. Two factors make this tactic increasingly likely in the near future: a growing recognition that economic security is an achievable human right, alongside interesting developments in technology.

The decentralization movement is [coming of age](#) against a backdrop of socioeconomic turmoil; the [moral egregiousness of poverty](#) has more than doubled since 1990, yet the rate of [poverty reduction](#) is [slowing down](#), while [inequality is becoming further entrenched](#) in many societies. It is my opinion that in this climate, UBI will migrate to the center of acceptable political discourse² — while alternative power structures may soon capture the public imagination. As I will explain, a government-independent platform could simply be the vehicle for establishing a UBI, but it could also be the end goal of such a project. Regardless, I do not wish to understate the monumental challenges to launching a government-independent UBI. I was inspired to write this as an introduction to the space; as both a way to understand existing projects, and as a roadmap for new initiatives.

2. WHAT, WHY, AND HOW

Note that the purpose of this paper is *not* to present an argument for why basic income may be a good idea. Instead, the following is an examination of strategies for the *implementation* of UBI; as such, we take it as given that UBI is a desirable goal. It is not my intention to gloss over

¹ I am referring to [Overton's window](#), a metaphor for the limited range of ideas tolerated in any particular political climate. Advocating for an idea outside the window is usually inadvisable. I originally intended to make a pun here about defenestration.

² UBI is arguably already seeing a healthy renaissance. The [Indian state of Sikkim](#) plans to implement a UBI by 2022 (which will be the largest UBI trial the world has ever seen), while [Andrew Yang](#) will be running for the 2020 American presidency on a platform featuring UBI.

legitimate debate on this topic; nevertheless, it is out of the scope of this paper, and I kindly ask those who are seeking such discussion to look elsewhere.

Some independent basic income projects aim to provide a short-term supplemental income to a small number of people. These are important because they help popularize the idea and refine its implementation. However, that is not my focus here. Instead, I specifically examine a more ambitious goal: how to design a currency that permanently provides some level of unconditional income universally (i.e., to every single user).

There are two reasons one might devote energy to this:

1. Perhaps we don't believe our governments will give us a basic income any time soon, so we are simply accomplishing it faster.
2. Perhaps we can use an independent UBI currency as the foundation for a new (and presumably more democratic) government and property ledger. Fiat currency is arguably at the root of government power; to usurp coinage is to challenge the authority of the state.

As I will explain, any attempt at creating an independent UBI currency is deeply political and necessarily falls into one of these two categories; that is, it is either reformative or revolutionary. A reformative movement seeks to improve existing government; a revolutionary one seeks to replace it. Although I focus on monetary governance, fiscal governance is inextricable, and an attempt to modify either one will lead to political questions.

3. PERSPECTIVES

Many of the endeavors I have come across are mutually compatible. But too often a new project will emerge apparently without any awareness of the others before it, limiting potential collaboration. What I hope to contribute here is to highlight the different areas of specialization and common ground among projects that emerge from diverse geographic and political backgrounds. This is done by breaking down the challenges into these six distinct perspectives:

1. Economic Policy
2. Adoption
3. Governance
4. Unique Identity
5. Technology
6. Principles

The following is a series of exploratory questions directed at a hypothetical independent UBI project, intended to elucidate the challenges faced, followed by my own perspective.

3.1. ECONOMIC POLICY

Questions:

1. How is the level of basic income determined? Is it rooted in economic theory?
2. What is the policy on taxation, if any?

This is a discussion about literally creating currencies, so it is safe to say that economic thought will be critical to the conversation. I will begin by defining two different concepts subsumed under “universal basic income,” a distinction that is commonly obscured in traditional debate:

1. The layman interpretation is that “basic” represents an amount of money that will cover basic needs. Behind this is an ethical argument whose goal is an acceptable minimum standard of living for every person. I will refer to this as the subsistence view.
2. “Basic” could instead indicate a foundational level of consumer purchasing power, set according to economic considerations but divorced from any particular minimum standard of poverty. I will refer to this as the stimulus view.

When we use the term “basic income experiment,” it is often unclear what the “experiment” is, i.e., what we are attempting to measure. We already have a plethora of evidence about how [unconditional cash transfers positively affect](#) individuals, which tends to be the focus for most proponents of the subsistence view.

A relatively neglected line of inquiry is the effect of basic income on the larger economy. Such an effect might be realized by distributing some amount of money universally to every member of the economy. An important question for those who subscribe to the stimulus view is how high this amount can be (and at what rate it can be raised) without causing price inflation. Other questions include how the policy would affect community economic development, labor rights, employment trends, the innovation ecosystem, and other such aspects.

The stimulus view frames UBI as a far-reaching economic tool rather than as a form of charity. It is essentially a demand-side economic stimulus. John Maynard Keynes humorously imagined the idea as if the Treasury, instead of funding public works programs, would stuff bottles with cash and bury them in a mine shaft to be dug up again by the public. Such an analogy correctly illustrates the true mechanics of a stimulus: that is, its ultimate purpose is to bolster consumer purchasing power.

The key difference between the subsistence view and the stimulus view is that the former is often discussed in the context of equality and wealth redistribution, whereas the latter inspires a discussion of economic efficiency, especially in terms of wealth predistribution (i.e., creation).

These perspectives correlate with two critically different philosophies in regards to funding models:

1. The dominant narrative assumes that a basic income would be funded by some form of taxation, whether it be new taxes or money saved from replacing an inefficient welfare state. Others imagine establishing a revenue-generating commons (e.g., a sovereign wealth fund as modeled in Alaska, or some mechanism for individuals to monetize their own data). What these approaches have in common is that they are fundamentally redistributive policies (the collectivization of certain property is a form of redistribution), and therefore fall under the category of what I will call a *fiscal UBI*.
2. An alternative funding model for UBI would rely simply on monetary expansion, or “printing money.” Milton Friedman famously referred to this as “helicopter money,” imagining a helicopter that would literally dump new cash out the window (Japan [seriously considered](#) something like this in 2016). I will call this *monetary UBI*.

Fiscal UBI tends to dominate the conversation, especially for advocates of the subsistence view. This is because UBI is cast as an ethical standard, and the redistribution of wealth as the ethical solution. However alluring, redistributive policies are politically tough. They tend to create fissures along partisan lines, and are particularly unpalatable for the wealthy, who happen to also wield enormous influence.

Those who adhere to the stimulus view are more likely to emphasize the potential for a *monetary UBI*. Although it is a recurring topic, there is inconsistent language and framing around the concept; cash [transfers](#) have been floated as a temporary fix in recessions, some advocates propose establishing [individual accounts at central banks](#), and the idea has been likened to a [debt jubilee](#), [quantitative easing](#) for [the people](#), or described as a [“citizen-centered monetary regime.”](#) The common ground among such thinkers is that distributing “helicopter money” should be a regular tool for central banks; it is not fundamentally different from lowering interest rates.

Proponents of a *monetary UBI* maintain that it is something the economy can clearly afford, but often remain agnostic about whether this income would be more or less than sufficient to meet basic needs. Nonetheless, plenty of theorists have proposed values, based on a variety of measures. Some advocates of the stimulus view take it further and claim that a *monetary UBI* is not just possible, but actually a necessary permanent feature of a healthy economy to sustain a minimum level of consumer spending.

One initiative, [Project Greshm](#), is based on this idea that there is an optimal, necessary level of consumer spending without which an economy will underperform. They argue that the only way to guarantee the economy is producing at full capacity is to ensure that consumers have adequate purchasing power, and that wages are fundamentally irrelevant for this purpose: Wages

may have served for most of recent history as a mechanism for creating consumer purchasing power, but in fact wages are determined by the labor market, and equilibrium in the labor market will not necessarily occur at full economic capacity.

“It has become cliché within basic income circles to claim that ‘robots are coming for our jobs.’ The presumption is that we therefore need to supplement people’s incomes. This implies that, until recently, wages were somehow a naturally sufficient primary source of consumer spending money. But has there ever been a time in history when wages were sufficient? *There’s certainly no rule of economics that says they should be.*” ([Alex Howlett](#), emphasis added)

As a *monetary UBI* is just a funding model, there is no assumption it would be sufficient to meet basic needs. Therefore we return finally to the subsistence view and the pertinent question of wealth redistribution. *Fiscal UBI* projects assume that in order to fund a UBI, there must be some form of taxation or a reorganization of property ownership. It is important here to clarify the purpose of taxation in regards to funding for a UBI. Many advocates make the erroneous assumption that money removed from one sector of the economy can directly fund an unrelated project in another sector. However, as illuminated by Modern Monetary Theory (MMT), government spending is constrained by resources, not by money.

Under the lens of MMT, creating and destroying money are entirely distinct processes; both are tools for incentivizing behavior, and by no divine logic do they need to [add up](#). For example, there may be some argument that money itself should be taxed over time simply to discourage hoarding, but it would be rather miraculous if the revenue generated this way turned out to be the optimal budget for a UBI. Removing these arbitrary barriers in how we think about money creation and taxation is a prerequisite for developing logical ground rules for a new economic paradigm.

A *monetary UBI* creates new money to activate unused resources, whereas a *fiscal UBI* can be explained as a way to incentivize an equitable reallocation of scarce resources. A *fiscal UBI* could be implemented by redistributing money taken from the wealthy, but it may or may not be that simple; the focus must be on redistributing resources. It is therefore possible that the simplest redistributive strategy would be a blanket wealth tax, but equally viable strategies might be the implementation of narrower tax policies like a Land Value Tax to disincentivize rent-seeking, or cooperative ownership models like this [Land Return](#) proposal.

As a government-independent currency is naturally limited in its powers of taxation, this is a moot issue in many independent UBI schemes. However, taxation is possible if conducted in-platform, and such a design is worth some consideration.

In this age of inequality, many UBI advocates are drawn to a wealth tax. The danger of a blanket wealth tax is that it could drive the wealthy classes to outside platforms. On the other

hand, the same self-interested mindset could feasibly view taxation within a guaranteed UBI currency as a legitimate, desirable form of “poverty insurance” — a feature, not a bug.

Demurrage is a simple mechanism that is straightforward to implement in a digital currency. It can be compared to a negative interest rate. The currency declines in value automatically; for example, with demurrage of 12% annually, 100 units would become 99 a month later (though most likely it would compound daily or instantaneously). This effect is achieved without any loopholes or bureaucratic paperwork: the only way to escape it would be to avoid holding the currency for any significant period of time. If the same amount of value lost through demurrage were to be recreated via UBI, such a mechanism would act like a redistributive wealth tax.

[Monnaie Libre Ğ1](#)³ is one active UBI project which places a demurrage on its currency, inspired by the philosophy of the [Relative Theory of Money](#). Demurrage will be an option for communities using [Circles UBI](#), and it is the *raison d'être* for the UBI projects [Solidar](#) and [Value Instrument](#). Depending on its implementation, taxation within a UBI currency would not induce dumps or volatility any more than in existing taxed currencies, but nevertheless the question will inevitably be how well the currency holds its purchasing power or sustains a stable value relative to outside currencies.

It is worth stating clearly that a strict wealth tax cannot be implemented without parallel taxation on outside currencies and assets. A government-independent currency is not a feasible means to tax those who are unwilling to be taxed, unless such a system is backed by a fully autonomous, self-sufficient economy. In a free market in currencies, it is those who hold the means of production who ultimately choose which currency or property ledger is used — and thus, which system of taxation is enforced.

One last thing to note: *fiscal UBI* and *monetary UBI* are not mutually exclusive. Although a *monetary UBI* does not involve taxation, this is not an argument against taxation in general, since there may be both underutilized resources and inequitably monopolized resources in an economy. Even within a post-scarcity economy, there may still be a role for redistributive policies. For example, it is likely that [wealth inequality](#) (distinct from poverty) is problematic in and of itself, and can be mediated only through taxation, or by migrating certain types of private [property](#) to the commons and experimenting with distributed ownership or [radical markets](#).

3.2. ADOPTION

Questions:

1. What method does this project use to give the currency real-world value?

³ This project is sometimes known as Duniter, which is the blockchain on which Ğ1 runs.

2. If it accepts donations/exchanges/purchases etc., are there protections in place to prevent speculators from cashing out?
3. How does this system drive adoption? How coherent is the messaging?

Imbuing value on a currency is a chicken-egg paradox. People seem to value it because others do. How does one break into this virtuous circle? Ed Murphy from Circles UBI poetically describes this feat as an “act of levitation.” Ultimately, it is the currency that is used that has value, but hidden in this process is the collective trust placed in some mechanism that ensures the currency can eventually be exchanged for real stuff. This mechanism boils down to tradability and stability; some omnipotent supplier is usually known to accept the currency (i.e. a government accepting taxes) and that supplier in turn would favor a currency with attractive features (i.e. stability). If enough people trust this value mechanism and begin conducting transactions with the new currency, it becomes ipso facto a useful medium of exchange. So yes, it’s possible to create value out of nothing. Precisely how is the trickier question.

Ultimately, it is much easier to start off a currency by backing it with reserves denominated in some other currency. This can be done by raising donations, by selling debt, or employing some version of an initial coin offering (ICO). However, it is important to delineate expectations for managing those reserves. For example, it would not be ideal if speculators end up draining the reserves of a UBI project — even more egregious if those reserves were acquired through charitable donations. This is the risk taken by currencies which attempt to prop up their value on an open market, like [Manna](#). Instead, it is necessary to have a clear “non-leaky” strategy for funneling those reserves to vetted entities that are consistent with the vision of the project.

One popular model for reserves management is to treat it as an endowment, or an investment fund. The goal would be to invest responsibly and use earnings to back the value of the currency. This is the approach of projects like [Give Crypto](#), which does not offer its own digital currency but could in the future. Manna also plans to establish a “Capital Reserve Fund” in the future.

Holding reserves gets especially interesting when we consider different strategies for using reserves to support the currency’s value. For example, it should be possible to stretch the currency supply relative to its reserves by a mechanism similar to fractional reserve lending. Such a system would use its reserves only for certain accounts or in certain situations.

One way to do this would be to reimburse targeted merchants under a system resembling the U.S. food stamps program (SNAP). Food stamps are pegged to the U.S. dollar, and thus they are used as currency among individuals, even though the U.S. government actively tries to prevent this phenomenon. Ultimately, if there is reasonable certainty that there exists some merchant who will accept the new currency, people will be able to transact with it. One caveat is that the value of the currency on an open market may not reflect its value in the eyes of the merchant — for example, food stamps are usually sold for cash at a discount. The value of the currency in this

scenario ultimately comes back to the popularity of the merchant, which is why it is key to identify a reliable source of demand and corresponding suppliers. This could mean looking at markets where demand is expected to increase under a UBI, like subsistence goods. [UBIseed](#) is one project pursuing this strategy; they have philanthropic partners in telecom and plan to offer simple phone plans in their currency. Another strategy would be to focus on a monopoly supplier; for example, securing the participation of a local utility company — to the exclusion of other currencies — would instantly create a market denominated in the UBI currency.

Another option would be to frame the currency as a business loyalty program. A good analogy for this is a community currency, like [Berkshares](#). A local currency is usually an attempt to stimulate the local economy; businesses have an incentive to offer discounts in their local currency because they recognize the indirect benefits of keeping money circulating inside the community. For example, merchants accepting Berkshares effectively offer a five percent discount. Businesses that accept a new UBI currency could capitalize on the same stimulative effect, but instead of limiting such a loyalty program to a particular geographic region, it can be extended to any merchant standing to benefit from a UBI. Additionally, the loyalty strategy may be attractive to users who would like to kick off such a program by primarily reimbursing green businesses, organic farming, fair trade, etc. — and therefore concentrating the stimulative effects into sustainable businesses that share important values with the UBI project.

A different path would be to honor a cash-out guarantee for a limited number of end-user accounts, making it immediately useful for people to transact peer-to-peer, and potentially building a perception of value much faster. Presumably, people would know that if they want the project to succeed, they should do their best to spend the currency within the system — but since they have the ability to be reimbursed at any point, its value is immediate and real. This is the path envisioned by Project Greshm, which additionally uses a clever timing mechanism and reimbursement cap to ensure that currency circulates within the system.

Note that while a system resembling fractional reserve lending may appear intuitively unsustainable, some amount of monetary expansion is actually necessary in a growing economy. As discussed earlier in the context of *monetary UBI*, according to some theories it is possible to create a certain amount of money without price inflation. Such a scheme, although perhaps gleefully slandered as a “Ponzi scheme for social good,”⁴ in fact accords with traditional economic principles, from the viewpoint of many economists.

While it may make certain things easier, it is by no means necessary to back a new currency with an existing currency. As mentioned earlier, in a free market for currencies, it is those who hold the means of production who ultimately choose which currency is used. There are several complementary currencies in existence which have enjoyed a thriving user base despite being

⁴ This is a phrase I have been known to use casually for humorous effect.

nonconvertible, like Ithaca Hours. This appears to be the direction that Monnaie Libre Ğ1 is taking, and potentially [SwiftDemand](#) as well. Hypothetically, a community could agree not just to transact with a nonconvertible UBI currency, but also choose to boycott all other currencies. If enough suppliers opt into such a system, there is no way to prevent the creation of a distinct economy based on this new currency. This follows the tradition of solidarity economics long recognized as tools of survival by the African American community. As explained by Dr. W.E.B. Du Bois in 1933, “We can by consumers and producers cooperation, ...establish a progressively self-supporting economy that will weld the majority of our people into an impregnable, economic phalanx.”⁵

One last thing to note pertains to messaging. While “free money” is pretty hard to argue with, not everyone standing to benefit from such a system will choose to opt into it, due to different perceptions of self-interest. This is why messaging matters. A successful initiative needs to transcend technobabble and produce a coherent narrative, to explain how UBI is not just in the interest of each individual but of the broader society. Even if one particular project fades from popular consciousness, its lasting impact may be in reminding each other that we still have plenty of choice in how to organize our economy.

3.3. GOVERNANCE

Questions:

1. Is there an entity which manages this currency?
2. If so, how are decisions made? Is the process transparent? Democratic?
3. Is currency architecture distributed or decentralized in a way that makes it robust against interference?

Creating a government-independent currency is a deeply political act: it is an attempt to hijack seigniorage and thus implicitly to usurp one of traditional governments’ economic controls. Therefore to truly understand the vision of an independent currency, we must examine which aspects of traditional governance the project is willing to coexist with, versus which aspects it is trying to abolish or recreate. If the goal of a new currency is not explicitly to coexist with the existing nation-state currency and government structure, then it is implicitly a challenge to it, and must offer a clear alternative. This is why it is critical to keep questions of government in mind when designing a currency, and it is the step at which every independent UBI project I have seen is simply too young or fails by omission.

There are multiple issues around governance which arise when designing an independent UBI project. Traditional governments manage their economies with both monetary and fiscal

⁵ As quoted in “[Collective Courage](#)” by Dr. Jessica Gordon Nembhard (Penn State University Press, 2014).

policy. Depending on the design of the independent currency, these same tools may need to be made available on the new platform.

Most obviously, anyone who issues new currency implicitly assumes responsibility for some duties of a central bank. There are those who argue that the goal of a UBI currency should in fact be framed as an attempt to establish a truly independent central bank (e.g., as envisioned by Project Greshm). A project modeled in this way should be able to coexist with many existing government structures; it poses no threat to existing fiscal policy, and may even set a goal of returning monetary governance to the nation-state after achieving a UBI.

Regardless of the project's political vision, if there are changeable variables affecting stability (e.g., related to UBI issuance rate or reserves management), then we must address the governance of these processes. Specifically, the entity in charge should both be able to operate with full transparency and to demonstrate competency in money and banking. There is also an argument to be made that such an entity must remain politically independent, just as traditional central banks must be, which leaves open the role of democracy in constructing such an entity.

This is a formidable list of requirements. An apparent alternative to difficult monetary governance decisions could be an inflexible system with an algorithmic monetary policy, but we must acknowledge that this is also a system of governance, and may or may not be constructive. Specifically, a hardwired “take it or leave it” approach to monetary policy may in fact stifle healthy debate and either [concentrate power into the hands of those writing the code](#), or divide would-be allies onto different platforms.

Beyond the issue of monetary governance, a government-independent currency presents an opportunity to build an entirely new economic paradigm. It could enable a new system of taxation or public spending; going even further, it could be the basis for a new property ledger, and thus innovations in distributed ownership of the commons. This is where the currency may become incompatible with existing government structures and evolve into a revolutionary project. It is thus the juncture at which the invention of [decentralized technology](#) may play a more important role.

We should therefore continue our discussion of governance with an explanation of decentralized money. Many readers who are familiar with the UBI concept will not be so well versed with the workings of a “cryptocurrency.” The crucial thing to understand is that these currencies are leaderless, and this quality also makes them resistant to censorship and control by reigning authorities. There are no vulnerable headquarters; the authority to timestamp transactions is dynamic and selected at random, and because the protocol itself is distributed across many different computers, it is virtually impossible to shut down the system. Thus, using a cryptocurrency makes it trivial to sidestep a ban on alternative currencies by an oppressive

regime, at least on a technical level⁶ (this has previously been termed [“sovereign-grade” censorship-resistance](#)). It is simultaneously a guarantee against meddling by middlemen: as long as a transaction is valid in the eyes of the code, it will be processed accordingly (“platform-grade” censorship-resistance).

Cryptocurrencies suffer from what Vitalik Buterin termed the “scalability trilemma,” which is the technological challenge of ensuring all three properties in a digital currency: decentralization, security, and scalability. Many cryptocurrencies don’t easily scale with a large user base — they can be slow or render minor transactions disproportionately expensive, which is a huge sacrifice when building payments infrastructure. However, scalability often comes at the expense either of the decentralized nature of the technology, or else its integrity as a payments processor. While there are many promising approaches to this trade-off, it is not clear which, if any, will emerge as a satisfactory solution. Until these technical challenges are behind us, electing to use a fully decentralized cryptocurrency at the possible expense of scalability is critical only if the currency itself could be the target of government censorship or similar attacks.

Some independent UBI currencies do indeed position themselves as alternatives to the existing economic system of the nation-state. It is necessary for these projects to acknowledge that setting fiscal policy is not incidental to managing a currency: it is an essential role of any government. Thus a project seeking to subvert traditional government structures must clearly define an alternative system for fiscal governance, including tax policy and public spending. Because financial decisions have repercussions in many other aspects of society, this process inevitably escalates into a question of political governance as well.

Digital currencies may offer unprecedented new mechanisms to address governance in more democratic and transparent ways, but the concept of e-democracy is still highly experimental. Right now, the “decentralized autonomous organization” (DAO) is less a [democratic innovation](#) than a trendy catchphrase, and while I’m optimistic about [liquid democracy](#) and [quadratic voting](#), it is hard to predict where and how to implement these ideas, or what impact they might really have. It is still too easy to find ourselves rehashing the “tyranny of structurelessness” vs “tyranny of the majority” vs “tyranny of actual tyrants” trade-off until we grow dizzy. Innovations in governance require research and testing, and this needs to be at the forefront of any experiment in revolutionary currencies, or we risk slipping backwards.

It is thus reasonable to frame a new currency as a stepping stone to a more democratic economic system, as long as the project is able to wade through the quagmire of governance and delineate a coherent approach to monetary and fiscal policy. Neglecting the question of governance altogether means the currency is unlikely to live up to its vision, regardless of

⁶ Note this does not address the myriad other ways in which oppressive regimes oppress.

whether its goal is reformative or revolutionary. Nevertheless, there is more leeway to postpone important governance decisions in the context of a reformative project. These questions become increasingly urgent as the project attempts to move outside the reach of traditional governments, in which case a functional system of decentralized governance becomes the critical factor in determining the fate of its revolutionary vision. But while e-democracy may currently require a stretch of the imagination, such a platform may soon take shape (I recommend keeping an eye on decentralized governance communities, like the [DGOV Foundation](#)).

3.4. UNIQUE IDENTITY

Questions:

1. How does this project verify unique accounts and protect itself from Sybil attacks?
2. Does it rely on existing identity infrastructure? Or does it use a decentralized method, and if so how secure, accessible, and noninvasive is that method?

The prevention of duplicate accounts (“Sybils”) is a common stumbling block for those who are new to the concept of an independent digital UBI project. Our world already has several identity systems in place, and an independent currency could potentially piggyback off these systems. For example, [UBIC](#) distributes a basic income to any user who can scan a valid NFC chip from a unique e-Passport. However, there are many reasons to avoid traditional government-sponsored identification methods, particularly in the context of a “government-independent” project. There are all sorts of other ways to identify unique people — phone numbers, social media, biometrics — but each has its disadvantages and vulnerabilities. The major hurdles have to do with centralization, privacy, accessibility, and viability for online use.

The holy grail of a “sovereign-grade censorship-resistant” UBI currency is a totally decentralized, self-sovereign unique digital identity system. This is what my heart wants, and I find it surprising that so few projects are attempting to build such a thing. Note that “uniqueness” is a very particular kind of identity, and that this narrow concept is the only identity needed for UBI distribution. Such a system would ideally operate without sharing other identifying information about the account (perhaps by using zero-knowledge proofs or mixnets). A decentralized and privacy-preserving proof of uniqueness would be valuable for a wide variety of non-UBI applications, particularly voting.

How can this be done? There are a handful of proposed decentralized identity solutions currently. In my opinion, Circles UBI has solved the identity question, although potentially at the expense of liquidity; that is because it ties trust directly into the currency using a peer-to-peer hawala system (users can only transact with coins minted by people they personally trust, similar to [Trustlines](#)). Monnaie Libre Ğ1 uses a web of trust that is distinct from the currency; they require users to periodically meet in person and receive a minimum number of vouches from

previously verified users. This approach appears effective on a small scale, but my concern is that a handful of successful Sybils could have a disproportionate impact on the whole system. Such a situation would be more likely in a large network, with more degrees of separation between users. Pseudonym parties are another concept that is occasionally floated; it requires all users to periodically show up at the same place and time to redeem a basic income. This could be a viable in-person strategy (limited in that the system must find ways to accommodate the minority of users who cannot physically show up); however I am somewhat skeptical of such a model being used online.

In general, any sort of vouching between strangers that is done virtually will be vulnerable to a sophisticated AI attacker. This is my main concern with video vouching as organized in [Raha](#), or the use of prediction markets as proposed by [GoodDollar](#). Ultimately, identity is social, and because good technology tends to mimic real life, a real social network should be our best bet for proving uniqueness. Thus I predict that the most viable option for decentralized unique identity will come in the form of an analysis of the social graph — based simply on friends vouching for each other, without submitting any other identifying information. I have high hopes for a project called [BrightID](#), which aims to do exactly this.

3.5. TECHNOLOGY

Questions:

1. UX: How easy is this currency to use for an average person?
2. Does it protect the privacy of the user?
3. How will it scale with a large user base?
4. How flexible is the design, in case the needs of the community change?
5. Does the UI effectively integrate financial tools and governance applications?

Any successful digital currency requires a good user experience design (UX/UI); this is worth highlighting since it has been a major failure of many digital currencies, particularly cryptocurrencies. Another important requirement is anonymity; the [discussion of privacy](#) in digital currencies tends to inspire debate on whether it enables money laundering, but I believe this is a weak argument in the face of an Orwellian dystopia. Privacy is key to the success of a currency, particularly if it is a “revolutionary” cryptocurrency and attempts sovereign-grade censorship-resistance.

Our list of requirements concludes with two last necessities: scalably fast transactions and bona fide decentralization, domains in which cryptocurrencies notoriously struggle. This was referenced earlier in the context of the “scalability trilemma”; I will not go into further detail here, since they are pretty hot topics and are covered in depth elsewhere.

The main thing to be aware of is that it is not clear whether these features are currently possible, nor is it guaranteed that they ever will be. If the technology simply is not yet sophisticated enough, we must be sensitive to that and make every effort to use a flexible platform.

However I will note that UBI is not and has never been a technical challenge: it is a political one. Technology now makes it easier than ever to start an independent currency, but at no point in history was it conceptually impossible. Rather, the true difficulty lies in trust, in governance, and in economic theory.

This is why I will change direction here and focus on one overlooked advantage to using digital money: that we can seamlessly wrap it up in educational or community tools. In my opinion, this is crucial. Money itself is awesome, but we can do even better. People need economic literacy: to be empowered in their private financial lives, but also to be afforded an understanding of the philosophy of a universal basic income. Spreading the idea itself should be a priority in all UBI initiatives; individual projects might fail, but we can absolutely ensure that the idea lives on.

3.6. PRINCIPLES

We are building a movement: the most important thing to come out of this would be awareness that today's economic paradigm is antiquated, undemocratic, and inefficient. Only by prioritizing education and social awareness in our implementation can we be sure that society will eventually see an economy that offers prosperity to all. I will sum this up with a 1939 quote from Dr. Sadie Alexander, the first black economist in the U.S.⁷ and an early advocate of the jobs guarantee: "The cause of economic insecurity and how it can be overcome must be made clear to all classes of the public, in language that each can understand — in order that America may await the orderly solution of the problem and not, in despair, turn over its freedom in exchange for the vain promises of a self-proclaimed messiah."⁸

Principles are important. This means I'd rather see a white paper which champions Coretta Scott King⁹ or Bayard Rustin¹⁰ as UBI advocates instead of Mark Zuckerberg and Elon Musk, and I'd rather see projects striving to integrate sustainable businesses and empowering community tools instead of touting UBI as a neoliberal panacea. The opportunities of cryptocurrencies may have lit a fire under some techno-libertarian behinds, but basic income is

⁷ She earned a PhD in economics in 1921, making her the first African American to do so.

⁸ As quoted by Dr. Nina Banks in "[Who is Sadie Alexander?](#)" (Financial Times, 2017).

⁹ A prominent [leader of the civil rights movement](#) and a vocal advocate for both [basic income and a jobs guarantee](#).

¹⁰ Famous for [organizing the historic 1963 March on Washington](#). He coauthored and formally introduced the anti-poverty proposal "[A Freedom Budget for All Americans](#)" (1966) which included basic income.

an old social movement with radical anarchist, anti-racist, and feminist¹¹ roots. Without an understanding of the struggle which birthed these ideas, the robot-obsessed start-up mentality is not going to make much progress. That means I'm always going to be suspicious of a UBI project which is disproportionately beholden to investors, as well as anything that feels too much like a publicity stunt or the product of ego. In contrast, I am much more likely to trust and support projects which are conceived non-hierarchically, with a broad and diverse team, and which are open to input from and collaboration with the community.

4. CONCLUSION

There are several points to take away from this body of research. I will first emphasize those that have convinced me of the feasibility of launching a successful independent UBI currency, followed by my biggest concerns.

First of all, it is essential to recognize that funding via monetary expansion instead of taxation has huge advantages for an independent project in regards to both sustainability and adoption. Secondly, a currency's value ultimately can be traced back to producers, thus any sufficiently robust network of suppliers theoretically would be able to back a new currency of their choosing. Third, government-independent Sybil-resistance is critical, but already Circles UBI offers one compelling approach, and furthermore it is a project capable of integrating with any number of different identity solutions as they arise.

Despite a promising outlook, real limitations in technology may hold back these projects and force difficult choices. For example, as long as the scalability trilemma exists, there will always be a tradeoff between having sovereign-grade censorship-resistance versus scalability. Furthermore, if the payments technology or identity infrastructure does not protect the privacy of its users, there could be very serious (even Orwellian) consequences. Finally, I remind my readers it is essential the role of governance within an independent currency not be overlooked. Through its approach to both monetary and fiscal governance, the project establishes its position in regards to the nation-state — and thus its status as a reformative versus a revolutionary project.

Possibly the most important point I will make is that this is not just an economic movement, or a technological movement; it is first and foremost a *social* movement. That means all the projects discussed here, despite their differences, are ultimately allies — a sentiment that has been overwhelmingly embraced. I personally witnessed a strong willingness to collaborate among all the teams I met, and this also should be evident from the many open channels of communication (one example being the “Open UBI” community). This leads me to emphasize that these projects must not characterize themselves as economic experiments or tech start-ups,

¹¹ There are several ways in which [UBI may usher in equality for women](#). Canadian women's groups have [demanded a basic income](#) for many years.

but instead must be held to higher standards and act equally as *educational campaigns*: the goal being to dispel the mystique around money, to empower people with the tools of economic knowledge, and thus to lay the groundwork for innovation and future action against the injustice of economic insecurity.

If you also have spent years dreaming about how to hack the economy, this is your roadmap. UBI may just be one tweak to the economy, but its effects could ripple through every aspect of our lives. A better world is possible: in fact, I hope I have shown you that it is literally possible right now, and we don't even have to ask for permission.

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