Project ZimDai

Blueprint for an Economic Jailbreak

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Abstract

Zimbabwe suffers under incredibly irresponsible economic control. The cryptocurrency industry and stack is now mature enough to break the Zimbabwean citizens out of this economic prison.

This document details a plan to bootstrap a nation-wide, state-proof adoption of Dai in Zimbabwe, starting from virtually no awareness and ending with everyday use.

Contents

1 The Situation

1.1 Our Position

We are Team Toast, the developers and mascots of DAIHard, a decentralized fiat-to-crypto gateway designed to be resilient and effective within oppositional jurisdictions. Armed with a stable product needing liquidity and users, our attention was drawn to Zimbabwe, whose only crypto exchange was shut down in May of 2018 due to pressures from the Zimbabwean banking system.

The author of this document then spent two months in Zimbabwe, primarily focused on two questions: Could Zimbabwe benefit from adoption of a stablecoin such as Dai? If so, how could such adoption be achieved?

As to the first question, section 1 will spell out a resounding yes. The rest of the paper deals with the second question.

1.2 Zimbabwe's Plight

1.2.1 Inflating Bond Notes

The Zimbabwean banking system has perhaps the most irresponsible and abusive monetary policies in the world today.

The current legally recognized currency is the *bond note*, or RTGS. When it was introduced in 2016, it was originally pegged to the USD at a rate of 1:1. This didn't last. In January 2019, it took 3 bond notes to buy 1 USD, and by November the rate was swinging unpredictably between 12 and 17 bond notes to the dollar.

Given Zimbabwe's history with hyperinflation, this wasn't terribly surprising to the locals, and it's common knowledge in Zimbabwe that the bond note, like its predecessors, is headed for a collapse of value. Then, as before, the government will introduce another new currency, and the cycle will repeat. The bond note currently in circulation will be just the latest—but likely not the last—on a long list of failed currencies.

It is practically impossible to save money in such an environment. Restaurants must re-print menus on a weekly basis to update the prices. Goods with long supply chains are disappearing from the shelf, as the money obtained from selling the product loses too much value by the time the shop tries to pay the supplier for more.

1.2.2 Abusive Banking System

Aside from inflation, the banking system itself has some dreadful characteristics that aren't as immediately apparent to an outside view.

The most crippling issues are those related to withdrawals. A local must get to the bank before the bank actually opens, as a line is already forming. After standing in line for hours, if they weren't early enough, they are informed that the bank has simply run out of cash for the day. If someday they get there early enough to get to the front before the cash is gone, they are allowed to take up to RTGS300 in a single week (or less, depending on the

bank)—an equivalent of 17-23 USD.

All transactions must also be accompanied by an invoice, even if you're just paying a debt you owe to a friend.

TODO: exact fees and time lag of bank transfers

Ecocash, a popular mobile-to-mobile payment system discussed further in 5.1.3, makes it easier to send small amounts to friends. But it has similar fees and charges an incredible 35-50% to withdraw any balance into cash.

1.2.3 USD/ZAR in the Black Market

Currently, the most practical way for a local to protect his wealth is to obtain USD or ZAR and physically hold it. But the government has declared such use of foreign currency illegal, so to get these currencies, one must go to the streets and engage in the black market of currency trade. This is further complicated by the fact that exchange rates change daily.

While many businesses accept USD with varying levels of subtlety, this too is illegal, and comes with an incredible threat of a 10 year prison sentence (a threat not yet used, but extremely daunting nonetheless).

Despite its illegality, USD and other foreign currency is still widely available. Businesses generally accept it, people use it to save, and the black market money changers on the street have survived all attempts of eradication.

1.2.4 No Sound, Digital Currency

If a Zimbabwean obtains USD or ZAR, they are able to protect their wealth and save. However, this wealth cannot be spent digitally in any meaningful sense. While the banking system sometimes accepts USD deposits, the recipient can't actually withdraw USD; it must first be converted to RTGS within the banks (at an out-of-touch "official" exchange rate). So while Alice can technically send Bob USD, Bob essentially receives RTGS. Bob will not be nearly as excited to get RTGS as Alice is reluctant to give up her USD.

A small business might happily transact solely in USD, but as a business scales, this becomes infeasible, even putting aside the illegality of USD. Large businesses rely heavily on digital money services: accepting payment, paying suppliers, taking out loans, and paying employees all become extremely cumbersome if the business is limited to physical cash.

To summarize, today Zimbabweans have two mutually exclusive options: digital currency that is constrained, expensive and inflating; or stable currency that is limited to physical cash.

2 Considerations for an Economic Jailbreak

In this paper, we detail a strategy to achieve widespread Dai adoption in Zimbabwe within the context of an oppositional state.

The dream of such an economic jailbreak has been close to the heart of the crypto faithful for years, but until recently we've lacked some crucial tools.

2.1 The Tools are Ready Today

2.1.1 Dai: A Stable, Incorruptible, Unblockable Banking System

Most attempts to evangelize crypto must inevitably cover volatility—a huge discussion fraught with good questions and complicated answers. Worse yet for our purposes, volatility is just another kind of economic uncertainty. It is not generally attractive for a Zimbabwean to move from inflationary uncertainty to speculative uncertainty, because in either case, one still can't predict how much one's money will be worth in a week or a year.

Dai inherits the benefits of cryptocurrency, but factors out the volatility. Since February 2018, the value of Dai has stayed firmly between US $0.95 and $1.04. Among those who regularly transact in Dai, 1 Dai is simply equal to 1 USD. To put Dai's stability a different way: it decouples the act of using crypto from that of investing in crypto.

The crypto faithful may bristle at calling Dai a "banking system", banks being the villain that crypto loves to hate. But from a marketing and user education perspective, the payoff is immense. Someone unfamiliar or apathetic to crypto can receive "$10" (10 Dai) to a wallet, and in a week or a year it will still be worth "$10". With this stability, suddenly crypto feels much less alien, and we can market it simply as a new kind of banking system, priced in USD, albeit with different security concerns.

The usual volatility discussion is entirely skipped as irrelevant and unnecessary, and the pitch is relevant to users looking for simple stability.

2.1.2 Bisq and DAIHard: Unstoppable Gateways To Crypto

Bisq and DAIHard are gateways between fiat currency and crypto, specifically designed to operate in jurisdictions that may actively attempt to shut them down.

With these tools available, Dai as a banking system gains a crucial additional benefit: the guaranteed option of exit. This is an absolutely crucial guarantee for Dai to gain any traction in Zimbabwe, where the banking systems seem to work until you try to get your money out.

2.2 Challenges

2.2.1 Crypto is Difficult and Complicated

Even without volatility, cryptocurrency has some difficult aspects.

First and foremost is security. Unlike a bank, a user who loses his phone cannot bring his ID to a customer service desk and recover the account. Backing up the key is possible, but requires a good understanding of basic cryptographic security practices, which today's general populace simply doesn't have.

Second, there is a dizzying array of tools and wallets available today, many of which are in alpha or beta states, and every month the landscape changes. Contrasted with a bank offering the customer a single, canonical banking app and a single customer service phone number, the complexity of simply getting involved in crypto is huge.

2.2.2 Issues with Bisq and DAIHard

(We've written more on these issues here)

Bisq has a very difficult user interface, requires a robust Internet connection to successfully sync, and can crash several times before the user arrives at a list of offers. Further, the tool does not have the flexibility to allow users to define their own fiat payment methods, which may severely limit the practicality of using Bisq in a place where access to the banking system is so constrained.

DAIHard has smoother UX and accessibility, being a dapp on a webpage rather than a p2p client. However, it has a significant drawback as an onramp: to buy Dai, you need to submit a security deposit of 1/3 the amount you want to purchase, in Dai. So if you have no Dai, DAIHard can't help you get Dai.

Further, both exchanges suffer from low liquidity for fiat/crypto pairs, and currently have no liquidity at all in Zimbabwe.

2.2.3 Oppositional State

As locals begin using Dai rather than the local currency, the Zimbabwean banking and regulatory system will lose power and influence. This existential threat will inevitably trigger oppositional action, escalating in extremity as first forms of control fail to stop the economic escape of the populace.

2.2.4 Internet Connection Required

Zimbabwe suffers from severe load-shedding, such that many households have power for less than 6 hours a day. Without power there is no wifi, and without Internet, cryptocurrency can't be used. Locals can get data packages from their cell networks, and often do, but these packages aren't cheap.

A more serious problem is that Internet access, whether via wifi or a mobile network, is susceptible to interference from the state. This could theoretically range anywhere from blocking IPs to ordering all ISPs to block all access.

2.2.5 Funding

The plan detailed below requires funding, primarily for marketing in the bootstrap phase (3.3.1). The impact could be enormously positive, but the benefit is diffuse and doesn't promise profit for any particular organization. It's a typical tragedy of the commons problem: who will foot the bill?

3 ZimDai Agents

The core of the plan revolves around setting up *ZimDai Agents*. An Agent is anyone within Zimbabwe who can operate crypto/Dai with relative fluency, and utilizes these systems to offers various bank-like services to others. Because crypto can easily route around the highly constrained financial systems of Zimbabwe, these services will be cheaper and better than any alternatives attached to the banking system.

Agents are expected to charge commissions for their services, and will act as ambassadors of a sort to a new, better banking system. By focusing on setting up and educating agents, we enable their entire social network to realize the benefits of crypto, but avoid the cost of educating the whole community. And by ensuring the agents can profit from this work, we incentivize the agents to solve any problems and grow their clientelle autonomously.

3.1 Agent Services

Each of these services addresses a significant failure of the current Zimbabwean banking system to address their customers' needs, utilizing Dai to offer a better alternative without limits and with lower fees. Because Dai itself is cheap and easy to use, the agents can charge a small commission and still remain extremely competitive against the constricted, cumbersome, and expensive alternatives.

3.1.1 Intercity Money Movement

If a local wants to send money to a relative in another town, currently they have three basic options:

- Physically deliver the cash
- Ecocash or bank transfers
- Western Union and similar services

Bank transfers require an invoice, ecocash has stringent limits, and both have significant fees. Both also have intense fees and obstacles related to withdrawals.

Western Union doesn't have too many restrictions, but the fees are significant at 10%, and the sender and recipient must both physically visit a Western Union to complete the transaction.

We offer a better option. A local can bring bond notes or foreign currency to an agent and specify the recipient the money is intended for. The agent takes the physical currency and sends Dai to the agent in the recipient's area. This second agent receives the Dai, then gives the equivalent in cash to the recipient. If each agent charges 1%, the total 2% fee is still extremely competitive compared to the alternatives.

3.1.2 International Dai to Cash In Hand

There is a large network of Zimbabweans who have left the country for greener pastures, often called the Zimbabwe Diaspora. Large amounts of money is constantly sent back from this diaspora to those still in Zimbabwe.

There exist services to help with this, but they aren't cheap. Western Union charges 10%, and companies like Mukuru charge $5 as a minimum fee. If a Zimbabwean has a relative sending money who is technologically literate, they have a chance to save a significant amount by using Dai instead, with the caveat that the sender must first trade their local currency for Dai.

At first we'll simply market to people in the diaspora who are already familiar with crypto, i.e. "Turn your Dai into cash-in-hand for Zimbabwean relatives!" With time we can choose high-value countries to set up agents similar to those in Zimbabwe, so we can market a much broader service: "send money to Zimbabwean relatives", where agents on either end translate the money in and out of Dai for the actual transfer.

3.1.3 Payment To and From South African Bank Accounts

Whereas sending money into Zimbabwe is currently simply expensive, sending money out costs more than money. A Zimbabwean must either get reserve bank approval, or physically smuggle foreign currency over the relevant border. The former is impractical for all but the largest businesses, and the latter is a huge investment of time, effort, and petrol, and involves risk of confiscation.

Despite the complications, there is a huge volume of Zimbabweans driving into South Africa to buy goods—some of these are extended shopping trips for household items, and some are for industrial equipment or other business-related goods. This is a natural consequence of the stalled Zimbabwean economy, and the fact that South Africa's economy is relatively stable and productive for the area.

Happily, there already exists a tool called Hatchlet that can accept Dai deposits and convert them into a ZAR deposit in any South African bank account. It can also do the reverse: accept a ZAR payment and turn it into Dai, deposited into some recipient address. This can be used by a ZimDai agent to offer a simple and extremely attractive service to Zimbabweans: make payments to, or receive payments from, anyone in South Africa. Neither the sender nor the recipient needs to know anything about cryptocurrency.

3.1.4 Dai Savings Account

DeFi has popped up in the last year and has grown fast, and today there are various platforms that allow a Dai holder to earn up to 4% APY. A first-world citizen in a stable economy might see these DeFi projects as just a better way to save money, but to a Zimbabwean, any kind of savings account is a fundamentally new option. Where before the best they could do was physically hold foreign currency to protect their wealth, they can now protect the wealth *and* grow it.

3.1.5 Dai Money Changing

Finally, the agent can simply offer entry and exit into Dai itself. They can help a customer set up a wallet, and then sell Dai for any currency as well as buy Dai back at any point—each time taking a small commission.

3.2 Agent Liquidity

Each time an agent performs some service, it will affect their local holdings, which this must be rebalanced for the agent to realize the profit or offer the service again.

For example, if an agent is holding $1000 in Dai and $1000 in USD, and customer wants to send $500 USD to a South African bank account, the agent will take the $500 plus a commission and send 500 Dai to the SA bank account via Hatchlet. The agent is then left with over $1500 USD but only 500 Dai. How does he re-balance?

Agents can trade among themselves, but then the problem becomes ensuring that the network of agents, or Zimbabwe as a whole, has a way of replenishing or selling Dai as demand dictates. With enough momentum, this problem will take care of itself, similar to how the ubiquitous demand of ZAR and USD in Zimbabwe has a way of enticing those currencies to appear in the local economy. But this won't kick in until Dai itself is well-known and has a similarly ubiquitous demand.

3.2.1 Bisq and DAIHard

Bisq and DAIHard both offer methods to get in and out of crypto, and in theory an agent could rely on these to re-balance their Dai or fiat whenever necessary.

But this is not sufficient in the bootstrapping phase, because neither tool currently has any liquidity in Zimbabwe. We need some shortcuts to get the ball rolling first.

3.2.2 Balancing Dai-Out and Dai-In Services

We make a distinction between *Dai-out* and *Dai-in* services. Facilitating remittance as in the earlier example is an instance of a Dai-in service, as it leaves the agent with more Dai than he had before and less local currency. In contrast, sending Dai out to South Africa is a Dai-out service as it has the opposite effect.

This distinction is relevant not just to individual agents, but applies to the agent network as a whole: if, for example, most agents are offering remittance, the network will accumulate Dai and drain local currency.

One way an agent can approach this liquidity problem is by balancing Dai-in and Dai-out services. If he's sending lots of currency out, he may begin to market more strongly toward those who want to receive currency from abroad. A similar approach would be to network with another agent who tends to serve the converse type of service. These agents could maintain liquidity by trading with each other with no or little fees, to their mutual benefit.

Just as an agent can individually aim to balance Dai-out and Dai-in services, we can help to guide the entire agent network's floats by targeting either Dai-in or Dai-out use-cases on a national scale.

3.2.3 Leveraging a Hungry Bitcoin Market

There exists within Zimbabwe a healthy, reputation-based market for buying and selling Bitcoin, and there is a consistent 5-10% markup on price. This represents an interesting benefit to any agent who is facilitating Dai-in services.

An agent might offer to facilitate remittance from a relative who can obtain Dai. This relative sends 100 Dai to the agent plus a 2 Dai fee, and the agent disburses 100 USD to the intended recipient. Then the agent can use a tool like Changelly to trade the 102 Dai for BTC for a meager 0.25% fee, and sell the resultant BTC to the hungry local BTC market for an *additional* profit, ending up with around 110 USD.

All this requires is that he knows someone who can send Dai instead of fiat for a remittance use-case, and that he has a contact within the BTC market. Amazingly, he could even offer the remittance service at 0% fee, and he'd still profit simply by selling to the BTC market.

Eventually, this kind of action will satiate the BTC market, and the 5-10% markup will disappear, but when this happens it will have a benefit: it means other agents looking to offer Dai-*out* services can then utilize the BTC market as a way to turn local cash into BTC, then into Dai.

In summary, the BTC market can act as an early source of liquidity for agents, which at first will heavily reward agents offering Dai-in services such as remittance facilitation. Later it will be a more neutral source of liquidity, at which point it can cheaply support Dai-out services as well.

3.3 Summoning the Agent Network

3.3.1 Bootstrapping The Nucleus

The bulk of the need for funding (perhaps the entirety of it) comes from this initial effort. A marketing campaign must be launched that is directly aimed at creating an early network of ZimDai agents.

These agents must have two primary qualities: they should be capable of understanding and responsibly handling crypto; and they should have an entrepreneur's capability and drive to find customers.

On-boarding an agent essentially boils down to three pieces:

1. Find the potential agent
2. Find a customer for one of the services described in 3.1
3. Ensure the agent can recover his liquidity as described in 3.2 after providing the service, at a cost lower than the commission charged for the service

As touched on in 3.2.3, targeting the remittance use-case allows the agent to essentially profit twice; once while offering the service, and again by selling to a hungry Bitcoin market. Another benefit is that this brings Dai into the network, something that would otherwise be difficult early on, when both Bisq and DAIHard have insufficient liquidity to provide convenient entry into Dai.

The first few agents will be the hardest to on-board, as they'll have to solve multiple problems at once. As the agent network grows, agents can begin to specialize further, solving one problem effectively (i.e. leveraging the BTC market to offload Dai, or extending Dai access to a small town) and relying on other agents to solve other problems.

3.3.2 Spontaneous Agent Entry

As the agent network grows, liquidity in Bisq and/or DAIHard will grow too, and as agents specialize and find consistent ways to profit, the need for external marketing funding will shrink and eventually vanish, replaced by word-of-mouth of a new business opportunity.

DAIHard and Bisq act as portals to the Dai economy, available to anyone with a laptop, wifi, as well as (for Bisq) patience, some luck, and robust Internet or (for DAIHard) some starting Dai. Anyone who can use these tools to enter and exit Dai can then offer their services as an agent to their community, and make money doing so.

A tech-savvy teenager with Dai can legitimately offer to his community the service of sending money to a South African bank account—or any other service listed in 3.1. He can then use DAIHard or Bisq to replenish his stock of Dai, and offer the service again.

If the agent network is large enough to provide liquidity to newcomers, and if agents consistently make profit by offering agent services, the agent network will necessarily grow organically without any outside funding.

4 Growing Adoption

4.1 Consequences of a Healthy Agent Network

4.1.1 Dai as Currency

In reality, the line between a professional agent on one hand and a naive customer on the other is hardly distinct. As a simple example, a remittance recipient could ask their sender to send them the Dai directly, thereby doing some of the agent's work for them, and only go to an agent to cash out.

Further, the recipient might wait a day or a month to actually trade the Dai in, given that it will indeed hold its USD value. For that matter, they might send some of it to a friend to whom they owe a debt, telling them they can bring it to an agent to redeem it. The friend might be in a different town altogether. And that friend might just decide to pay off a debt to a South African contact via Hatchlet, and never end up going to the agent at all.

Agents will already be settling debts between each other via Dai, and this will naturally begin happening with less and less technical users who peripherally deal with the agents. A shop owner receiving remittance from abroad via an agent may find that his supplier buys supplies from South Africa via an agent. The shop owner could receive the Dai from abroad directly and pay the supplier, and the supplier could use Hatchlet to directly pay his South African supplier, both skipping the use of agents entirely.

In small ways like this, where Dai began as a tool for agents to provide services, it will begin to creep out as a valuable currency in its own right. Curious users will ask questions and begin handling it directly. While it might first feel like a coupon, it will quickly become evident that it's a coupon that keeps its value, doesn't expire, and has a global market value—in a word, sound currency.

4.1.2 Survival of the Fittest

Currently, a business has a choice between using physical foreign currency and losing out on digital money services, or using banks and grappling with uncertainty, inflation, taxes, and limitations. Dai offers a third option, combining stable, predictable prices with digital money services.

Looking at the Zimbabwean economy as an evolutionary environment, use of Dai is an incredibly valuable mutation. Inflation and uncertainty ravage businesses using RTGS, and the nature of physical cash limit the growth of businesses using foreign currency. A Dai-based business is unaffected by either of these, and can scale effectively while remaining immune to inflation.

With each successive step Zimbabwe takes down the road of financial uncertainty and inflation, the economic sectors based on Dai will continue unperturbed while everything else shakes. Each new regulation on international payments will strangle businesses that pay for imports with fiat, but will not touch those paying with Dai.

Each time, the Dai-based sectors will hold firm while the rest shrinks, growing the Dai economy by attrition if nothing else.

4.2 Adding Fuel

Aside from the natural, organic consequences of a healthy agent network above, there are ways in which an interested organization or community could add further momentum and resiliency to the ZimDai movement.

4.2.1 Adoption Drive in Targeted Zimbabwe Community

An appropriately-sized town in Zimbabwe could be targeted to promote the direct use of Dai, replacing the ubiquitous use of Ecocash. The amount of funding available would inform the size of the community targeted; better to get full saturation in a small community than a meager adoption in a big one.

The approach should be more of a dialogue than a broadcast. Direct use of Dai is still so unheard of in the wild that any intuitions on how it would be best used by the layman is theoretical at best. Seminars may be a good format, where a small group of experts can educate anyone interested, while also taking in the reactions, questions, and ideas from those that attend.

One caution with this approach is that it's easily identifiable and targetable by a state facing an existential threat. The leaders of such seminars face this risk directly, in proportion to how revolutionary their language is and how loudly they speak.

4.2.2 Promote Commerce with South Africa

As adoption of Dai grows within Zimbabwe, the following pitch could be made to any South African business that gets a significant portion of their business from Zimbabwean buyers:

By only accepting ZAR, the business limits itself to the portion of the Zimbabwean market who is willing to spend time and petrol driving over the border with physical cash. But if the business accepts Dai directly, then suddenly their product is available to any Zimbabwean with Dai and wifi. If the product is digital or can be shipped, then the Zimbabwean customer can order the product without even leaving their home.

This reduction in cost for Zimbabwean customers is so immense that the business could even charge a higher price in Dai, and still see an increase in sales. The business could then sell the Dai via Hatchlet or any other South African crypto exchange. They will have not only increased the number of sales, but even the effective price-per-item.

Dai-holding Zimbabweans, meanwhile, will see more and more businesses in South Africa become available to them, and will be able to make a payment to these businesses for less than $US0.01 from anywhere with Internet access.

5 Reviewing Viability

5.1 Fertile Ground

5.1.1 Familiarity with USD Pricing

From 2008 to 2016, Zimbabwe halted printing their own currency and relied on on the USD for economic stability. This so-called dollarized period is widely regarded within Zimbabwe as the most stable and prosperous in Zimbabwe's young history. As discussed above, use of USD is still widespread, and goods and services are implicitly priced in USD.

Thus, locals are very comfortable pegging their wealth to the price of USD, as Dai offers.

5.1.2 Ecocash as Digital Currency

Ecocash is a ubiquitous mobile-to-mobile payment system, where one user can send RTGS to any other mobile user knowing nothing but the recipient's phone number. This is achieved via via USSD codes and a pin, and a confirmation message with the recipient's name.

Everyone accepts ecocash: street vendors, large grocery chains, restaurants, hotels, even beggars. While in Zimbabwe, the author of this paper frequently went to town without a wallet, as there was nothing that couldn't be bought with ecocash.

Ecocash's ubiquity demonstrates that Zimbabweans are comfortable using digital currency for everyday purchases, even with the significant drawbacks detailed in the next section.

5.1.3 Ecocash as Market Validation

Ecocash faced a similar bootstrapping problem as Dai adoption faces today: no one cared about Ecocash at first, because there was no real-world use for it. Comparing Ecocash to a Dai wallet as a product, each has pros and cons, but Ecocash is a far cry from a superior product.

Ecocash has two advantages over a Dai wallet: it can be used without the Internet (needing only a basic cell connection to send USSD codes), and it has a much more user-friendly security model, where simply "losing" funds in any way is pretty inconceivable.

However, its drawbacks are significant.

First, it uses RTGS as the unit of account. Thus, an Ecocash balance faces the same inflation the bond note does, and is an unwise place to hold any amount of wealth.

Second, withdrawing cash from Ecocash takes a mind-boggling fee of 35% if you're okay with coins, and 50% if you want bond notes.

Third, sending ecocash to another user is limited to 500 RTGS (about 25-40 USD) per transaction, so if you want to send more than that, you must navigate the USSD menu multiple times, each time entering the recipient's full phone number and your pin. Each of these transactions takes a 6% fee.

A Dai wallet could offer the same basic service, but with better UX, fixed low fees, and

guaranteed withdrawal at a few % rather than 50%.

5.1.4 Money Changer Network Resiliency

In any city in Zimbabwe, you can find money changers on the street who can trade between the bond note, ecocash, and foreign currency. This network of money changes has resisted all attempts at eradication, which is promising in two ways.

First, it simply illustrates the ineffectiveness of governmental crackdown on a network that serves a hungry market need. Undercover police often come around to the places in town these money changers are known to be, and the money changers just melt away only to come back when the coast is clear.

Second, this network of money changers themselves will happily incorporate Dai into their arsenal of currencies, as soon as it becomes lucrative to do so. When this happens, Dai gains a foothold in a network that's already well-practiced at surviving and thriving in a hostile regulatory environment.

5.2 Challenges Addressed

5.2.1 Experts Handle the Crypto

The first challenge we raised in 2.2 is that crypto is difficult and complicated. Despite this, the crypto movement itself has steadily grown. As complex as crypto is, there are people out there who are technical enough to stomach the complexity and become experts.

This plan relies on finding those people within Zimbabwe, and further incentivizing them to get involved by demonstrating a profit potential. Crypto itself is an efficient system, and stable as well with the introduction of Dai. If one agent can expose this efficiency and stability to those around him, he has a business model, and the community has access to a better economic platform.

For the price of educating a few key individuals, we essentially on-board entire communities.

5.2.2 Early Agent Liquidity Without Exchanges

The second challenge had to do with Bisq and DAIHard. Neither will start with any liquidity in Zimbabwe and each has its own particular challenges, so any bootstrap plan must involve a plan for providing early liquidity to agents that doesn't rely on these exchanges.

In the very early stages of the movement, this is addressed by focusing on the remittance service. This allows agents to essentially turn local currency into Dai while charging commission, knowing they can at any time always rely on the hungry Bitcoin market to offload the Dai (again making a profit) when they want to exit to local currency and provide the service again.

As the hungry BTC market is used in this way, this premium will eventually disappear. At this stage, the same market can be used by agents for the converse purpose of entering Dai via BTC.

In the medium term, once the agent network has grown past a handful of individuals, agents can begin trading among themselves to re-balance, to the extent that the network as a whole is relatively balanced between Dai-out and Dai-in services. If there is an abundance of Dai and the agent network is running low on local currency, agents can offer cheaper Dai-out services.

As the agent network grows, so will the liquidity on the most useful exchange (whether Bisq, DAIHard, or something else), further lowering the hassle of entry and exit.

5.2.3 Resiliency Within an Oppositional State

Typically, when a state wants to shut down crypto activity, the easiest option is to go after the exchanges that allow entry and exit. That strategy will prove ineffective here, as both DAIHard and Bisq have strong (and independent) claims to resiliency.

As discussed in 5.1.4, at a fairly low level of adoption, Dai will begin embedding itself into the incredibly resilient money-changer network in Zimbabwe that has already resisted all attempts at eradication. When this happens, stamping out the availability and use of Dai will prove just as impossible as it has been to stop use the of USD.

The agent network will be growing organically and unpredictably, without any central leadership or headquarters. Further, the boundaries of the network will be incredibly fuzzy (i.e. is a teenager who once helped his Grandma send $300 to South Africa an agent?). The state may eventually make examples of high-profile agents, but this will at most slow the movement down.

The network of users will be even more decentralized than that of the agents, and the wide (if subtle) use of USD in Zimbabwe shows that Zimbabweans are comfortable and practiced when it comes to breaking the law to protect their wealth.

Any business in South Africa that sells products for Dai will act as an unstoppable portal out of Zimbabwe's oppressive economy, available to any Zimbabwean with Dai. Despite these businesses being easily identifiable, Zimbabwean regulatory bodies will be unable to reach over the border and pressure these businesses in any way.

5.3 Challenges Remaining

5.3.1 Reliability of Internet Access

The challenge relating to Internet access is not as easy to directly address at this stage. Internet access in Zimbabwe is spotty, mostly due to unreliable electricity.

To some degree, this is addressed by setting up agents to do most of the work and provide services to customers: so long as a single agent can secure Internet access, his entire network of clientelle can access the benefits of crypto.

But the problem is worse than that, because the state can do a lot of nasty things when it comes to Internet access. Blocking certain web pages or apps would be the start of it, and this could escalate as far as simply ordering all ISPs to stop serving Internet, either to targeted individuals or to the entire country.

As dark as that scenario is, it's far from hopeless. Shutting down the Internet doesn't destroy crypto, after all; it just temporarily removes access to it. And going this far would be an international news item, inviting global scrutiny and likely unearthing some very powerful allies in the process.

Anything less than a total shut-down of the Internet can be responded to in a variety of ways. VPNs can be used, proxies can be set up, and nodes can multiply.

Fundamentally, cryptocurrency was designed to operate in a decentralized context. While the specifics will have to be navigated in real time, any response by the Zimbabwean regulatory bodies to simply "shut it down" will prove futile in the long run.

An attempt to fully address this challenge at this early stage would be too theoretical to mean much. However, we are confident it will prove solvable as the need arises.

5.3.2 Community Engagement and Funding

The very first step in this movement is to bootstrap an agent network as discussed in 3.3.1, and this requires a marketing budget as well as a dedicated team of leaders. For this, we turn to the crypto industry and community.

An obvious way to approach this would be to hold a token sale for a DAO, where token holders vote on how the DAO disburses the funds. The details can be worked out in dialogue with the community, but the tokens should be primarily designed as voting rights in a venture of philanthropy, rather than speculative assets in some profit generating machine.

For years, liberating people from an abusive economic regime has been a dream close to the heart of the crypto faithful. We trust that if the plan detailed here is sound, we will find significant community support and engagement, from both individuals and organizations.

6 Next Steps

6.1 Moving Fast

Given the scale of engagement we expect this paper to spark, we must assume we've revealed our hand to a potentially oppositional state (although in reality this may not even be a blip on their radar). Having potentially given up the element of surprise, moving quickly is important.

6.2 Feedback and Partners

In the coming weeks, we'll work to get this paper exposure, garnering as much feedback as possible. We'll focus around the subreddit r/ZimDai, subreddits being a good engine for constructive dialogue with a dedicated community. As the ZimDai plan is improved in this process, we'll publish successive versions of this paper on our ZimDai repo.

At the same time, we'll be looking for individuals and organizations who want to play an active leadership role in the movement. This could be big names in crypto, anyone experienced in marketing, or early agents/organizers within Zimbabwe. These may be volunteers

willing to begin immediately, or professionals looking for paid work from the DAO after the funding round.

6.3 Funding and Organization

Once the scale of support and possible funding is a little clearer, we'll work toward a DAO and token sale, with an emphasis on getting something simple and dependable up fast, rather than spending too long designing a groundbreaking DAO.

During this time, we'll also be cementing reliable partners into an organizational structure, such that decisions can be made rapidly and wisely. Our initial thought is to go with a Holocracy-like structure, but this is open to discussion.

6.4 Agent Bootstrapping

With a funded DAO and a group of leaders, we will be ready to begin the agent bootstrapping as detailed in 3.3.1. Our first target will be organic agent network growth; once this is achieved, our focus will turn to the strategies in section 4.2.