Online Appendix to
"Promise and Perils of Redeemable Money: Evidence from a Barter Platform"

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This online appendix contains Appendices B to G. Appendix A, Model Details, is included in the paper.

B Descriptive Evidence

B.1 Bunz FAQ (April 6, 2016)

BUNZ TRADING ZONE : FAQ

Updated 4/29/16

WHAT IS THE BUNZ TRADING ZONE:
It's a cashless trading zone, inhabited by a community of barterers.
"I'll trade you my bag of sour keys for your bar of soap."

What is Bunz for?
To get what you want for what you have and connect with your community.

Do you have rules?
We only have one BIG RULE: NO CASH IN THE ZONE.
What we do have are guidelines/etiquette, some of which are learned through trades, many are in the Community Guidelines (which you should read!) and some are below in the answers.

How do I Bunz?
Posts take two forms:
1) Either you have something to get rid of, which you describe and/or post a photo of, or make a service offer, and then you post what you'd like (ideally) in return.
2) You post something you're looking for (ISO = "In Search Of", or "I'm Seeking Out") and either suggest what you may have to offer in exchange or say "Name your trade".
3) **The BEST AND MOST EFFICIENT WAY TO BUNZ IS THROUGH THE APP.** We built it for that purpose alone! It's available on iOS, Android and on the web at www.bunz.com use invite code 777 777

An **ISO** can literally be anything, but something important to keep in mind about **VALUE**:
-Something that someone is getting rid of might still be valuable to them, either in cash or emotional value. It's not wrong to want equal dollar value for something, but then be explicit about that in your post. Please also consider that material goods depreciate in value, quickly.

People are looking for deals, so give them! You'll get them in return, pinky swear. PAY IT FORWARD, BUNZ!! On the flip side, you might try to lowball a trade, like offering 2 tokens for an iPhone. Not likely to go through, but you can always try.
So, the solution for both is: be realistic. Nobody is going to give you a PS4 for your stained + broken chair, so get creative and offer combos! You need a vacuum? Offer tokens AND beer AND cheese!

Either way, we really like a concept floated by our community called **#TRUETRADES:**

The #truetrades principle is simple: it's when the person looking to get rid of something is willing to take something you already have around (as opposed to buying things just to trade with) - on principal of paying things forward and being a good bun. You'll sometimes see posts tagged this way, and that's what it means.

Where can I trade?

As long as you and the other person agree on a place, you can trade anywhere in the city. Many Bunz will include the neighbourhoods they live / work in somewhere in their posts so that others get a sense of how far they will be traveling for the exchange. If you do set up a trade with someone on the other side of town, we recommend picking a midway point that works for both of you. TTC Stations are a great, safe place to meet.

Many people are more than happy to do trades from their homes, but for those who may not be comfortable giving out their address, we have been partnering up with local coffee shops and bars around Toronto to create actual Bunz Trading Zones! These places are all run by Bunz and will have your back! There's 7 now but there will be dozens by the fall, stay tuned as our listings grow, and check out the Bunz blog for featured zones:

What are common trade 'currencies', if we can't use cash?

The most common currencies in the zone is booze, TTC tokens, houseplants and consumables.

What's a consumable?

Things you consume - food mostly, but may include things like toiletries.

I lost my bike or pet! Can I post it here?

Sure. But if you get it back, please update the thread and celebrate your reunion with the group.

Someone broke my heart! Can I post ISO good vibes and pictures of cats?

No, please don't. It clogs up the feed and there's Bunz Helping Zone for things like that.

A bun flaked on me like a day-old croissant! I want to yell about it!

Well, the trading zone isn't the best place for that. It happens. People forget, things come up, people miscommunicate, etc.

It helps to BE FIRM with times and places and make sure you're on the same page. It happens to everyone, and it's rarely malicious flakey-ness. In the app, we have the 'review' feature which helps keeps people accountable to each other.

Hey, where'd my post go?
Probably deleted because it didn't have a place in the zone. Please read the Community Standards document to see where you may have gone wrong. Maybe explore the BUNZ MULTIVERSE and you can find a better home for your post.

Is there a list of groups in the BUNZ MULTIVERSE?
YEP: HERE! There are also many 'secret' groups which you can learn about by just engaging with the community - there's a zone for everything!

Can I make a new Bunz group for whatever I want?
Short answer: We kindly ask you **not to.** There's over 100 Bunz groups, and chances are that one exists for what you want - ask about it in BTZ, or in Helping Zone. If you think a niche or geographic area is being underserved, please message an admin!

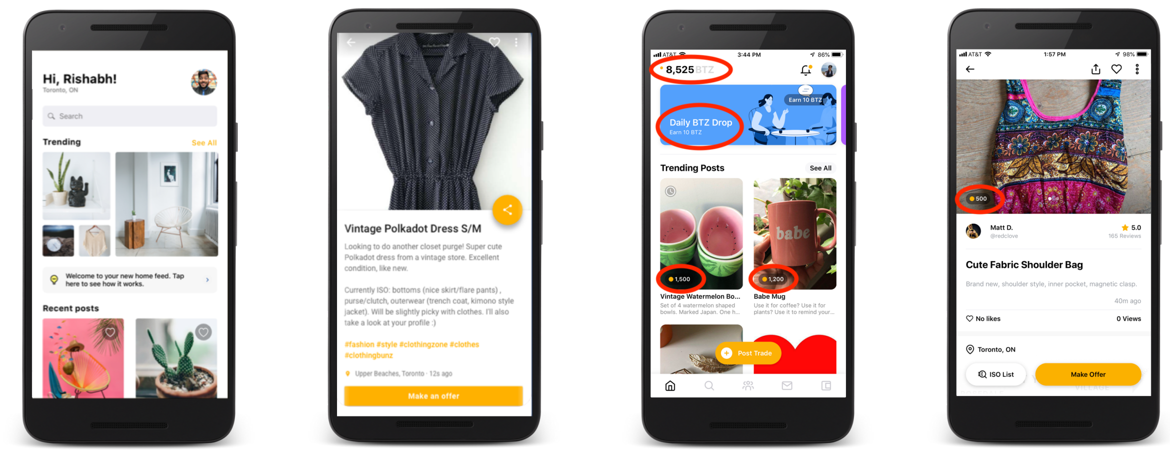
How can I make my BunzLyfe EVEN BETTER?
Get social with us!! Come to events, meet-ups and trade parties. Follow us on Twitter @bunztradingzone / Instagram @bunztradingzone / Snapchat @bunztradingzone

Bottom line: trade culture is fun, exciting and addictive.
Be the best Bunz you can be! Trade right, and your life will improve, 100% guaranteed.

B.2 Screenshots of the Bunz Mobile App

Figure B1: App interface before and after introduction of BTZ

(a) Before BTZ (b) After BTZ



Notes: Panel (a) is from an official blog post by Bunz, published on September 1, 2017, before BTZ introduction, available at https://blog.bunz.com/back-to-bunz-basics-dbcef3810c8e. Panel (b) is reproduced from the app designer's portfolio (https://rishabh.ca/work/bunz), accessed June 18, 2019, with red circles added by the author.

Table B1: Summary statistics, items posted, by category

Category	Items	Share with	BTZ price (CAD)		
	(% of total)	BTZ price	p10	p50	p90
Clothing (uncategorized)	11.0%	38.8%	3	10	40
Jewelry	9.9%	37.1%	2	9	40
Home	9.5%	33.3%	2	10	40
Women's clothing	9.4%	39.7%	4	10	40
Grocery	5.7%	33.2%	1.5	6.5	25
Beauty	4.2%	39.1%	2	9.5	32
Electronics	3.4%	34.7%	2	11	85
Books	3.3%	31.0%	1.5	5	20
Health	3.3%	35.8%	1.5	6	25
Footwear	3.0%	36.3%	4.5	15	60
Toys and baby	2.4%	36.7%	2	8.5	30
Art/handmade	2.1%	37.4%	2	10	50
Plants	1.9%	37.6%	2.5	8	25
Music	1.3%	34.6%	2	10	50
Men's clothing	0.8%	38.6%	4	15	60
Video games	0.6%	34.0%	4	15	90
Movies	0.6%	35.2%	1	5	25
Gift cards	0.6%	21.9%	7.5	28.8	100
Pets	0.5%	32.7%	2	8	35
Uncategorized	26.5%	31.9%	1.5	8	40
Total Items	1129440				

Notes: Each observation is an item listing created between September 1, 2018 and August 31, 2019. Categories follow the platform classification: apparel subcategories are shown separately, other items use their top-level category, and "Uncategorized" is a platform category rather than a missing value. Rows are ordered by share of listings, with "Uncategorized" shown last. "Items" reports each category's share of all listings. "Share with BTZ price" reports the share of listings in that category with a posted BTZ price, indicating willingness to accept BTZ. The p10, p50, and p90 columns report the corresponding BTZ-price percentiles, converted to Canadian dollars at 100 BTZ = 1 CAD and rounded to the nearest ten cents.

Table B2: Distribution of trades across users with at least six months of activity

Trade decile	Share of total trades
Decile 10 (top)	67.17%
Decile 9	16.44%
Decile 8	7.97%
Decile 7	4.23%
Decile 6	2.30%
Decile 5	1.22%
Decile 4	0.56%
Decile 3	0.12%
Decile 2	0.00%
Decile 1	0.00%
Top 1/5/10% of users	22.01% / 50.48% / 67.17%

Notes: The sample includes users whose messaging activity spans at least six months. Users are ranked by total trades and grouped into deciles, with decile 10 containing the most active traders. Shares report each decile's fraction of total trades in the sample.

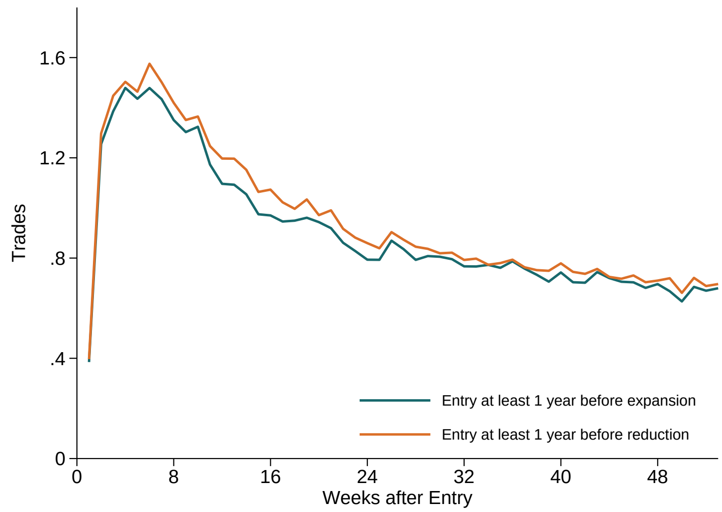
Table B3: Total weekly activity, all and regular users

	All users (1)	Regular users (2)	Percentage (3)
Trades	2802	1352	48.2%
Barter trades	1744	817	46.8%
Token-mediated trades	1058	535	50.6%
Items posted	21969	8002	36.4%
Token acceptance	.35	.41	
Offer messages sent	40408	17311	42.8%
Offer messages received	40439	12970	32.1%
BTZ flows			
Issuance	108990	19644	18%
Redemption	963	168	17.5%
Transfer from peer	2183	865	39.6%
Transfer to peer	2183	795	36.4%
BTZ volume per flow			
Issuance	.32	.25	
Redemption	17.11	24.05	
Transfer from peer	15.11	15.15	
Transfer to peer	15.11	15.44	
Number of users	215271	2281	1.1%

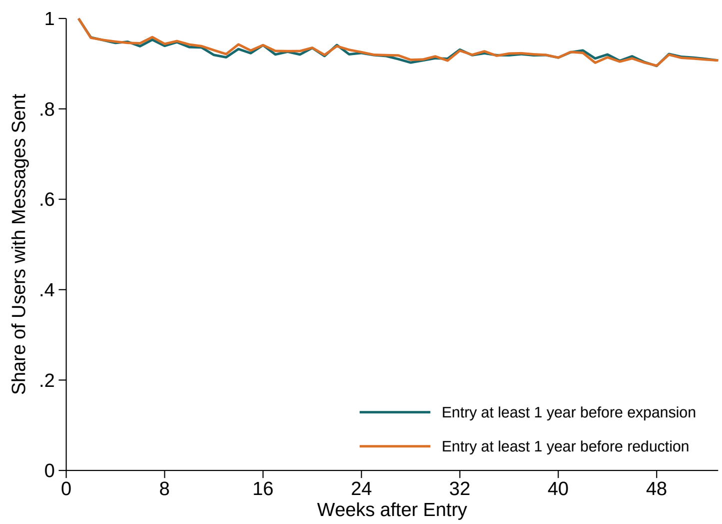
Notes: This table displays total weekly activity, averaged between September 2018 and August 2019, for all and regular users, respectively. Barter and token-mediated trades indicate the number of ratings sent and received, without and with an associated token transfer between the users. Token acceptance refers to the share of items posted with a BTZ price. The number of token transfers indicates the average weekly incidence of token transfer, in four categories: issuance (i.e. from the Bunz platform), redemption (i.e. to redemption stores), from peer (i.e. received from other Bunz users), and to peer (i.e. sent to other Bunz users). Token amount per transfer indicates the average value of token transferred, for each subcategory, denominated in the Canadian dollar (CAD) at the fixed exchange rate: 1 CAD = 100 BTZ.

Figure B2: User activeness, by week after entry

(a) Transactions



(b) Any message sent



Notes: Figure shows the weekly trend after entries for regular users who entered at least 1 year before expansion/reduction in (a) average trades per user per week and (b) share of users with messages sent.

Table B4: Summary statistics: users decomposed by user transaction intensity

Variables	10-49	50-99	100-199	200+
	(1)	(2)	(3)	(4)
Barter trades / total trades	.62	.6	.6	.61
Token-mediated trades / total trades	.38	.4	.4	.39
Items posted / total trades	7.12	6.27	5.95	5.1
Share of items with BTZ price	.37	.41	.43	.4
Offer messages sent / total trades	13.09	11.89	13.71	12.91
Offer messages received / total trades	12.27	10.57	9.62	7.27
Number of BTZ flows per trade				
Issuance	25.58	17.5	13.6	9.17
Redemption	.21	.15	.12	.09
Transfer from peer	.74	.68	.68	.53
Transfer to peer	.66	.61	.6	.53
BTZ volume per flow				
Issuance	.23	.24	.25	.24
Redemption	20.72	22.03	29.46	21.17
Transfer from peer	14.52	14.33	15.98	15.6
Transfer to peer	15.74	14.73	16.64	15.09
Number of users	3721	1194	520	168

Notes: This table displays user averages between September 2018 and August 2019 for users separately grouped by their lifetime trades, as measured by total ratings received between 13jan2016 and 19nov2021. Sample excludes users who made fewer than five trades during the analyzed subperiod, who conducted more than 70% of their trades in a single month, or who were active for less than 6 months. Barter and token-mediated trades indicate the number of ratings sent and received, without and with an associated token transfer between the users, divided by total number of ratings. Items posted indicate the number of items posted, divided by total number of ratings. Token acceptance refers to the share of items posted with a BTZ price. Offer messages sent and received indicate the number of offer messages sent and received, divided by total number of ratings. The number of token transfers per trade indicates the average number of token transfers per trade, in four categories: issuance (i.e. from the Bunz platform), redemption (i.e. to redemption stores), from peer (i.e. received from other Bunz users), and to peer (i.e. sent to other Bunz users). Token amount per transfer indicates the average value of token transferred, for each subcategory, denominated in the Canadian dollar (CAD) at the fixed exchange rate: 1 CAD = 100 BTZ.

Table B5: Composition of listings by category, regular users versus all active users

Category	All active users	Regular users
Uncategorized	26.5%	27.4%
Clothing (uncategorized)	11.0%	10.8%
Jewelry	9.9%	9.9%
Home	9.5%	8.7%
Women's clothing	9.4%	9.4%
Grocery	5.7%	6.3%
Beauty	4.2%	4.6%
Electronics	3.4%	2.5%
Books	3.3%	3.1%
Health	3.3%	3.4%
Footwear	3.0%	2.5%
Toys and baby	2.4%	2.6%

Notes: Each observation is a listing. The table covers listings created between September 1, 2018 and August 31, 2019, excluding those recorded in the platform's "in search of" category. The sample is the active users of Section 2, with regular users the subset defined there. Each column is a share of its own group's total listings across all categories, so the twelve shown do not sum to one hundred.

Table B6: Distribution of trades by location, regular users versus all active users

Panel A. By country

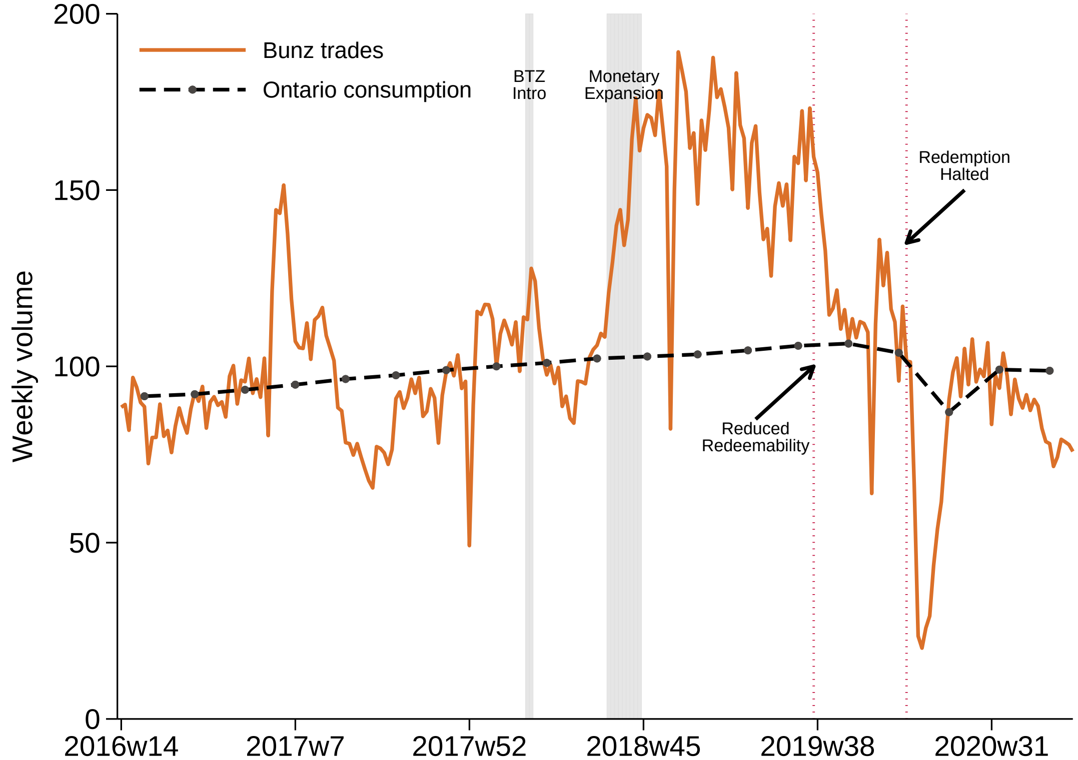
	Share of trades	
	All active	Regular
CA	98.7%	98.9%
US	0.7%	0.4%
GB	0.1%	0.1%
AU	0.1%	0.1%
ID	0.0%	0.0%
DE	0.0%	0.0%
NL	0.1%	0.1%
FR	0.0%	0.0%
NZ	0.0%	0.0%
IE	0.0%	0.1%

Panel B. By city

	Share of trades	
	All active	Regular
Toronto	73.6%	78.6%
Ottawa	6.2%	4.7%
Vancouver	5.1%	3.8%
Montréal	2.3%	1.1%
Mississauga	1.2%	1.2%
Hamilton	0.8%	0.6%
Vaughan	0.6%	0.7%
Markham	0.9%	1.1%
Brampton	0.2%	0.2%
New York	0.1%	0.0%

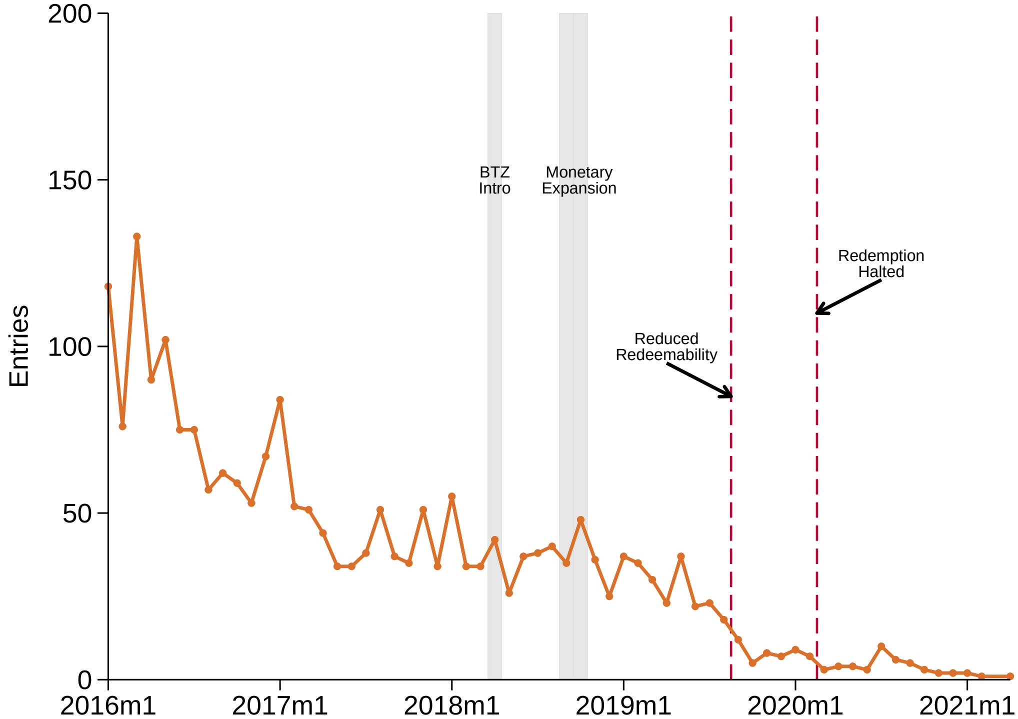
Notes: The panels report the ten most common countries (Panel A) and cities (Panel B), ranked by share of users, for all active users and for regular users. Location is based on geocoded user data.

Figure B3: Trends in Bunz trade and Ontario consumption



Notes: This figure shows the trend in total trades on the Bunz platform compared with the trend in household consumption in Ontario, with 2018 Q1 normalized to be 100.

Figure B4: Trend in regular user entry



Notes: This figure shows the trend in new entry of regular users onto the Bunz platform, as measured by the first message sent.

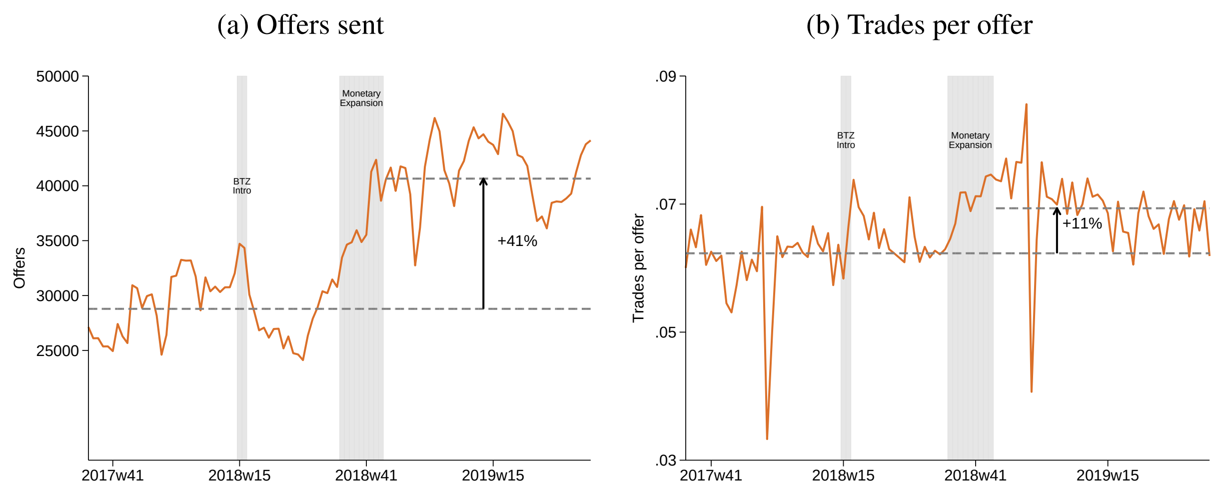
C Effects of Monetary Expansion

Table C1: Effects of monetary expansion on trade, low vs. high-frequency regular users

	(1)	(2)	(3)	(4)	(5)	(6)
	Asinh total trades			Asinh barter trades		
Post expansion	0.284**	0.329**	0.290**	0.053**	0.021	-0.061
	(0.028)	(0.049)	(0.078)	(0.026)	(0.046)	(0.077)
Users' trades:	50-99	100-199	200+	50-99	100-199	200+
Observations	31278	13929	4735	31278	13929	4735
Users	1188	472	155	1188	472	155
R^2	0.164	0.162	0.244	0.172	0.185	0.251
Pre-event mean	0.979	1.461	2.171	0.957	1.432	2.135

Notes: Table reports the effects of monetary expansion on the asinh total trades and asinh barter trades of existing regular users, but uses different subsamples of users with different numbers of total trades in the available data, as measured by ratings received. Controls for user fixed effects and months after user entry are included; calendar-month fixed effects are not. Standard errors clustered at the user level are in parentheses. * and ** indicate statistical significance at the 10 and 5 percent levels, respectively.

Figure C1: Effects of monetary expansion on offers and trades per offer, all users



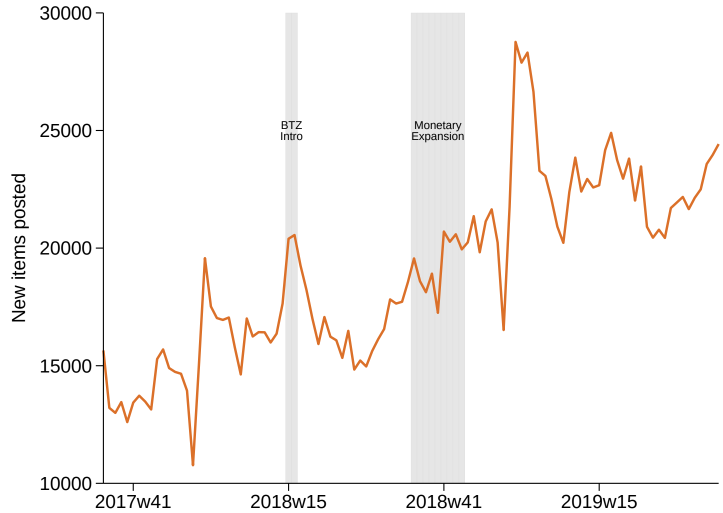
Notes: Figure shows the weekly trend in (a) offer messages sent and (b) trades per offer sent. Gray bars indicate the first and second wave of monetary expansion.

Table C2: Effects of monetary expansion on offers sent and items posted, existing regular users

	(1)	(2)	(3)	(4)
	Asinh items posted		Asinh offer messages sent	
Post expansion	0.223**	0.089**	0.389**	0.250**
	(0.035)	(0.042)	(0.038)	(0.046)
Calendar-month FE		X		X
Observations	49942	49942	49942	49942
Users	1815	1815	1815	1815
R^2	0.305	0.309	0.418	0.422
Pre-event mean	2.435	2.435	3.187	3.187

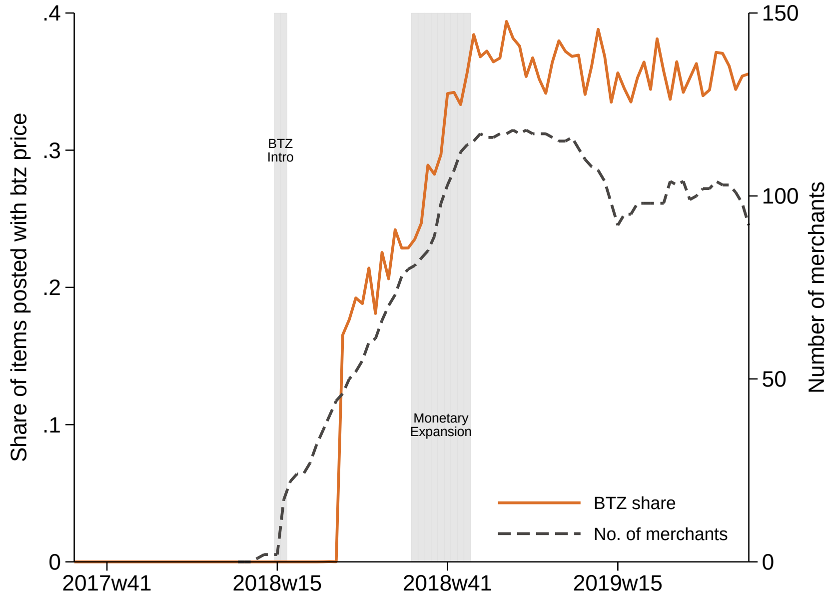
Notes: Table reports the effects of monetary expansion on asinh items posted (columns (1)–(2)) and asinh offer messages sent (columns (3)–(4)) among existing regular users. "Post expansion" is defined as months after September 2018. Controls for user fixed effects and months after user entry are included. Controls for calendar month fixed effects are added in Columns (2) and (4). Sample includes all observations between October 2016 and September 2019 at the month-user level for regular users whose first message sent was before the monetary expansion. Standard errors are clustered at user level. * and ** indicate statistical significance at the 10 and 5 percent levels, respectively.

Figure C2: Trend in items posted, before and after monetary expansion



Notes: Figure shows the weekly trend in items posted. Gray bars indicate the first and second wave of monetary expansion.

Figure C3: Trend in token acceptance, before and after monetary expansion



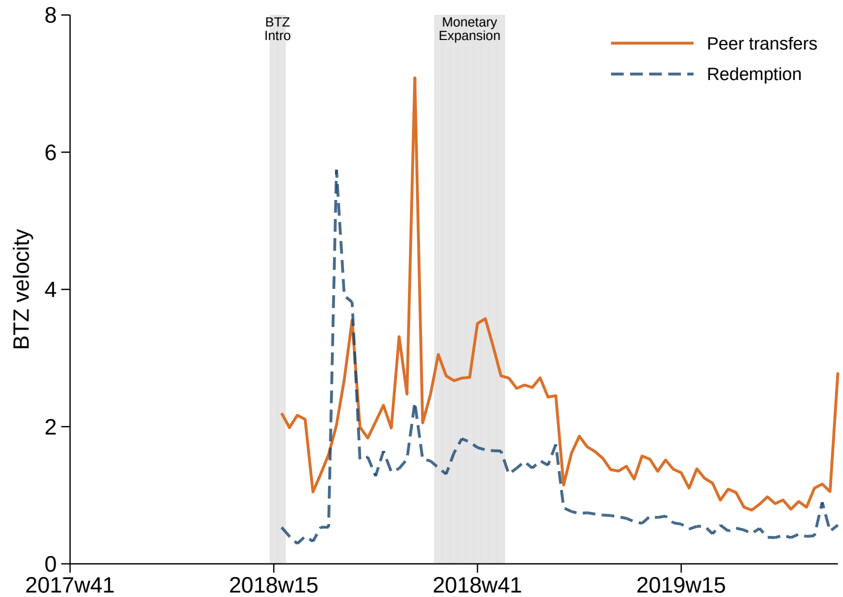
Notes: Figure shows the weekly trend in token acceptance, defined as share of items posted that eventually have a posted BTZ price. The dashed line shows the number of active local stores available for BTZ redemption, which have been active for at least two weeks. Gray bars indicate the first and second wave of monetary expansion.

Table C3: Trend-break estimates for token acceptance

	Dependent variable: Acceptance	
	(1)	(2)
Week	0.009**	0.001
	(0.001)	(0.003)
Post	0.036**	0.021*
	(0.014)	(0.012)
Week × Post	-0.010**	-0.001
	(0.001)	(0.004)
Number of active merchants		0.003**
		(0.001)
R^2	0.958	0.963
Observations	38	38

Notes: The dependent variable is weekly token acceptance, measured as the share of items posted with a BTZ price. The sample covers 2018w25–2019w10. $Post_t$ equals one from 2018w44 onward, and Week is normalized to zero in 2018w44. Thus, $Post_t$ captures the level change. The interaction term captures the change in trend at the break. Column (2) controls for the number of active merchants. Newey–West standard errors with three lags are reported in parentheses. * and ** indicate statistical significance at the 10 and 5 percent levels, respectively.

Figure C4: Trend in token velocity, before and after monetary expansion



Notes: Figure shows the weekly trend in BTZ redemption and peer transfer divided by the total BTZ supply (multiplied by weeks in a year). Gray bars indicate the first and second wave of monetary expansion.

Table C4: Trend-break estimates for token velocity at Christmas

	Dependent variable: Token velocity	
	Peer	Redemption
	(1)	(2)
Time	-0.000	-0.018
	(0.022)	(0.016)
Post-Christmas	-1.237**	-0.591**
	(0.242)	(0.153)
Time × Post-Christmas	-0.015	-0.001
	(0.032)	(0.016)
R^2	0.352	0.569
Observations	38	38

Notes: The dependent variables are weekly token velocity from peer transfers (column 1) and redemption (column 2). The sample covers 2018w25–2019w10. $Post\text{-}Christmas_t$ equals one from 2018w52 onward, and Time is normalized to zero in 2018w52. Thus, $Post\text{-}Christmas_t$ captures the level change, and the interaction term captures the change in trend at the break. Newey–West standard errors with three lags are reported in parentheses. * and ** indicate statistical significance at the 10 and 5 percent levels, respectively.

D Effects of Reduced Redeemability

D.1 Letter to Shop Local Partners (September 9, 2019)

> Dear Makers and Shop Local Businesses –
>
> I send this email with a heavy heart, as we could not have become the platform we are without the love and support from each and every single one of you.
>
> After a deep dive into our company priorities, Bunz will only be running the Shop Local Program revolving around food and coffee, as this is where our focus will be moving forward.
>
> **Effective immediately, you will no longer be able to accept BTZ and convert them into CAD currency.**
>
> We will be locking your wallets, and everyone will be paid up to September 10th inclusive, so please don't worry about any revenue that you brought in through the program as we will be settling your account with you and removing you from the application.
>
> If you have any questions or concerns, please don't hesitate to reach out. I will be by within the week to come and collect the Bunz assets in your possession, so please do not throw them away!

Notes: Email from Bunz to Shop Local partners announcing immediate cessation of token redemption except for coffee shops and restaurants. Taken from item post by Alisa Yao on September 10, 2019.

D.2 Bunz blog post after reducing redemption (September 10, 2019)

Bunz,

As you may have noticed, yesterday we had to make the very difficult decision to reduce the merchants and makers who accept BTZ to just coffee and food. We are sorry for any inconvenience and disappointment this may have caused and want to keep you informed as to why we had to make this decision.

Trying new ideas is really hard. There are very few examples of companies that have attempted to share their revenue with its community like Bunz. We are still learning and adjusting the platform as we learn more about how it's used. This requires us to make hard choices at times and this, unfortunately, was one of them. This change to the program is not an ideal outcome and we are sorry for any difficulty this may cause to individuals, merchants, and the community. As a start up trying to do things differently, this was a necessary change we had to make on short notice for sustainability reasons.

In addition to this, we made another difficult decision today that allows us to sustain Bunz and BTZ going forward. This was having to say goodbye to 15 members of our team. This decision was equally difficult because a number of us have been working on Bunz since day one. I'm sad to see them go, but also know they have great things ahead of them.

The reality we face is that it's expensive to build and maintain a platform that hundreds of thousands of people use every day. It gets more expensive when you try to ensure those people see material benefits from using it. Reducing the merchant list was necessary to continue Bunz and BTZ for the community. We believe that these changes put us in the best position possible to allow you continue to use BTZ day-to-day.

Having said all this, we've still achieved something amazing over the last 14 months — since first launching BTZ. Our community of users and local businesses have earned and spent over $1.4 million because of this program. This is something we can all be proud of.

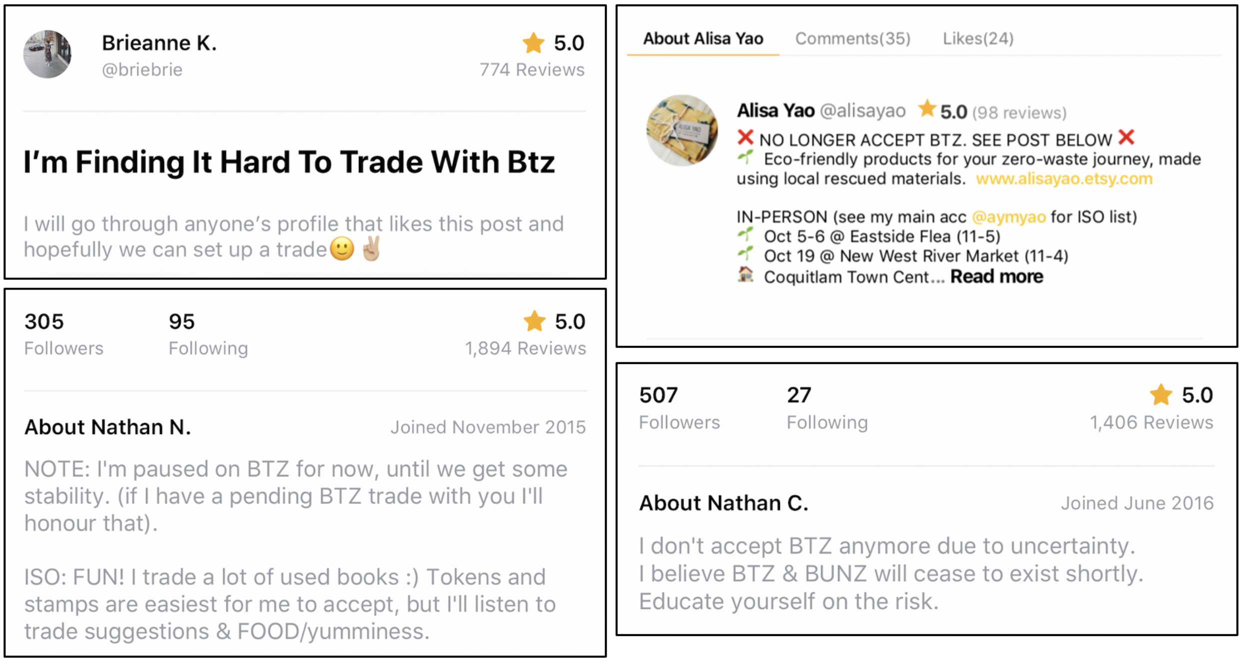
As a result of these decisions, we are able to continue to make Bunz and BTZ a community-focused platform in a more sustainable way. We admire our community for caring so much — you are the reason why Bunz exists and the reason we get up every day to try and change who benefits from platforms.

To the merchants and makers we've had to part ways with, we appreciate everything we achieved together through the Shop Local program and we wish you nothing but success.

Thank you for your understanding.

Sascha + Bunz HQ

D.3 Response to scaling back of Shop Local program among users



Notes: Item posts and user profiles after the restriction of redemption on September 10, captured by author on September 23, 2019.

D.4 PALZ statement after reducing redemption (September 11, 2019)

Hey everyone,

Former Bunz Admins here. We wanted to reach out to our community(ies) and talk a little bit about what happened today.

Here's a background:

- Yesterday, September 11th, Bunz HQ announced that its BTZ (in-app currency) would no longer be accepted by vendors or makers that are not coffee shops, restaurants, or bars.
  - This means that small businesses that relied on BTZ to bring in new business, or even vendors who started facilitating their goods and services through the Bunz app and by accepting BTZ as a form of currency, are now out of luck.
  - These vendors and makers were not informed about these changes within the appropriate time frame which, as per their contracts, was to be informed of any changes within two weeks.
  - As a result, makers specifically have now been shut out of the previous Bunz app/BTZ system of trade and had no time to inform consumers of this change. They haven't only lost potential customers and clients, but have also lost income streams that are crucial to the survival of small businesses in Toronto.
- On top of changes to BTZ, Bunz announced that they have fired 15 of their staff. We estimate that this is approximately three-quarters of people whose livelihood depended on the Bunz brand.

Here's what we have to say about it:

- Makers, innovators, artists, creatives, activists, advocates, and regular, everyday people are the backbone of what was once the Bunz community. We all came together several years ago as people who believed in the value of the little things. The value of a half-eaten pizza, an old cassette tape, a joint, a tall boy, a jar of spaghetti. Most of us didn't have much money, and none of us had the means to create apps, or profit off of our relationships with one another.
- Monetizing our communities completely contradicts the barter system that birthed the Bunz lifestyle, as well as the anti-capitalist practices that have shaped our collective communities.
- Today, we would like to reclaim our communities. We would like to bring Bunz back to what it once was. We want our groups to remember why they exist. We do not want to profit. We do not want your app sign-ups. We do not want you to buy into an online currency that will let you down.
- By returning Bunz to its original form, as a pushback against the absolute exhaustion—financial, emotional, and physical—that goes hand in hand with living in cities that are dynamic, fast-paced, expensive, and ever-changing.
- We fundamentally love our communities. As admins of Bunz, and the people who have spearheaded the growth of our communities, and of the app alongside you all, we have a vested interest in your wellbeing. Only your wellbeing. No app sign-ups, no growth, no "buy-

in," only genuine human connections and a commitment to kindness, compassion, and community-building.

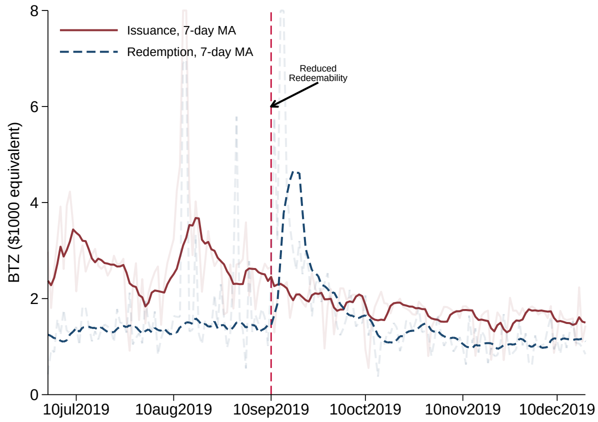
With all that said and done, we want to introduce *Palz*, a collective comprised of former Bunz admins who believe in something bigger than profit.

Our groups will stay the same, our values will stay the same with a commitment to hearing from you, a commitment to existing outside of the scope of trademarks, corporations, advertisements, and the monetization of human connections. We hope that this new chapter can sustain our community's health, growth, and compassion.

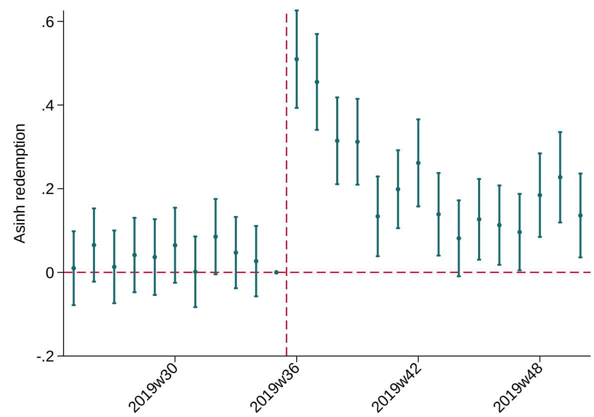
With Love,
Your Palz

Figure D1: Effects of reduced redeemability on token redemption

(a) All users



(b) Existing regular users



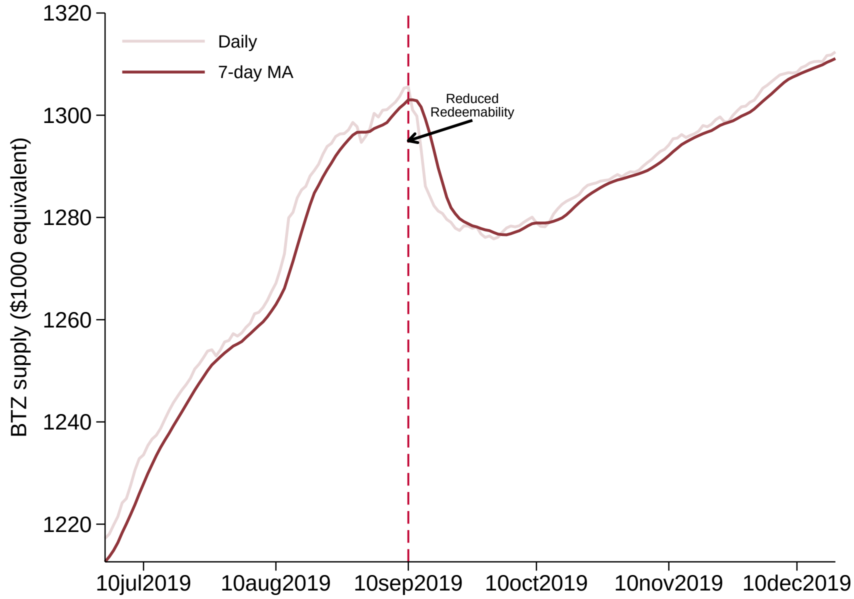
Notes: Panel (a) shows daily BTZ issuance, the total amount of tokens sent from Bunz directly to users, and daily BTZ redemption, the total amount of tokens sent from users to local stores, in thousands of CAD-equivalent BTZ. The light lines show the raw daily series and the dark lines show the 7-day moving average of a cleaned series. The pre-event spikes in the raw series reflect unusual activity by a small number of users. The cleaned series excludes users who received a sign-up bonus and redeemed only during the spikes, excludes the stores at which they redeemed, and winsorizes daily values at the 0.1 percent level. The red dashed line indicates September 10, the day redemption was restricted. Panel (b) reports coefficients from regressions of asinh token redemption on week fixed effects for existing regular users, with controls for user fixed effects and months after user entry. The week before the restriction is the omitted category. Standard errors are clustered at user level, and 95 percent confidence intervals are shown. In the corresponding pooled regression, the coefficient is 0.38 in the first four weeks and 0.16 thereafter, against a pre-event mean of 0.31.

Table D1: Effects of reduced redeemability, existing regular users, subsamples

	Subsample by total trades		
	50–99	100–199	200+
	(1)	(2)	(3)
Panel A. Token acceptance			
First four weeks	-0.074**	-0.091**	-0.039**
	(0.011)	(0.015)	(0.018)
After four weeks	-0.051**	-0.092**	-0.011
	(0.016)	(0.020)	(0.029)
R^2	0.556	0.606	0.674
Observations	13184	6684	2927
Pre-event mean	0.400	0.411	0.382
Panel B. Asinh token-mediated trades			
First four weeks	0.003	-0.001	0.012
	(0.007)	(0.014)	(0.040)
After four weeks	-0.038**	-0.060**	-0.128**
	(0.010)	(0.020)	(0.046)
R^2	0.249	0.258	0.378
Observations	32547	13446	4314
Pre-event mean	0.138	0.214	0.419
Panel C. Asinh barter trades			
First four weeks	-0.012	0.004	-0.109**
	(0.009)	(0.017)	(0.043)
After four weeks	-0.063**	-0.055**	-0.287**
	(0.013)	(0.023)	(0.057)
R^2	0.279	0.310	0.394
Observations	32547	13446	4314
Pre-event mean	0.236	0.339	0.760
Users	1366	539	167

Notes: Table reports the effects of reduced redeemability on token acceptance (Panel A), asinh token-mediated trades (Panel B), and asinh barter trades (Panel C) among existing regular users, with user fixed effects and linear controls for time since entry, for subsamples of users with the stated number of total trades in the available data, as measured by ratings received. "First four weeks" and "After four weeks" refer to the weeks following the September 2019 reduction. Standard errors clustered at the user level are in parentheses. * and ** indicate statistical significance at the 10 and 5 percent levels, respectively.

Figure D2: Trend in token supply, before and after reduced redeemability

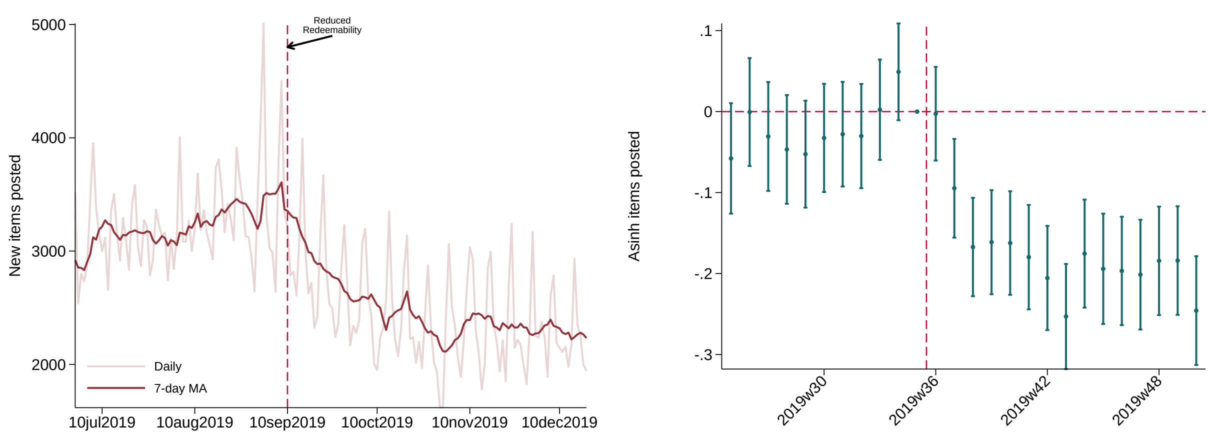


Notes: Figure shows the trend in BTZ supply, defined as the cumulative sum of BTZ issued minus the cumulative sum of BTZ redeemed. The dark lines show the 7-day moving average, while the light lines show the daily trend. The red dashed line indicates September 10, the day redemption was restricted.

Figure D3: Effects of reduced redeemability on new items posted

(a) All users

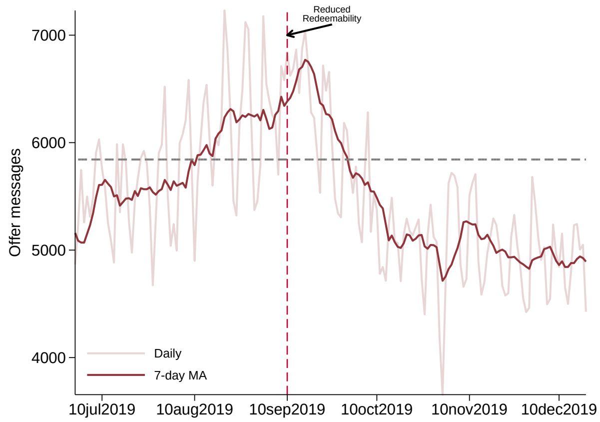
(b) Existing regular users



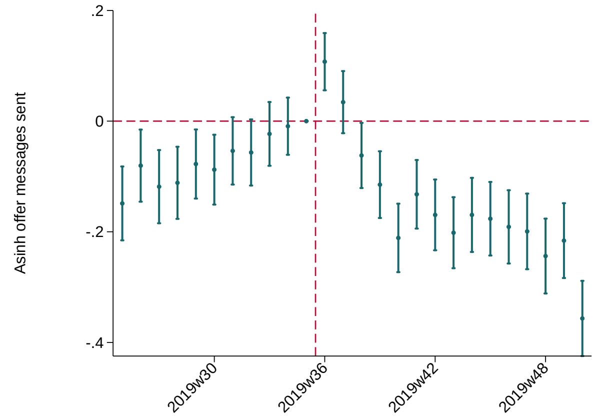
Notes: Panel (a) shows the aggregate trend in new items posted. The dark lines show the 7-day moving average, while the light lines show the daily trend. Panel (b) reports coefficients from regressions of asinh new items posted on week fixed effects, with controls for user fixed effects and months after user entry. The sample includes only existing regular users. Standard errors are clustered at user level. 95 percent confidence intervals are shown.

Figure D4: Effects of reduced redeemability on offer messages sent

(a) All users



(b) Existing regular users



Notes: Panel (a) shows the aggregate trend in offer messages. The dark lines show the 7-day moving average, while the light lines show the daily trend. Panel (b) reports coefficients from regressions of asinh offer messages sent on week fixed effects, with controls for user fixed effects and months after user entry. The sample includes only existing regular users. Standard errors are clustered at user level. 95 percent confidence intervals are shown.

E Effects of Redemption Halt

E.1 Bunz announcement (February 28, 2020)

BTZ Shop Local Redemption - Gaming Update

Please note that as of today, we will be temporarily pausing the Shop Local Program. An internal audit and review has been conducted of the BTZ rewards program and the Shop Local program, and despite many people using the program properly, several critical issues were flagged around the gaming of BTZ rewards. Our engineering team will be implementing additional checks and controls, which we will communicate out once those controls are in place. Any shops that participate in our Shop Local program will be paid up in full for any amounts owed up to the pause, and we will communicate with both the Shops and with the community once the protective changes are in place and the pause is lifted. We apologize for the short notice, and we appreciate your patience while we work. -Bunz

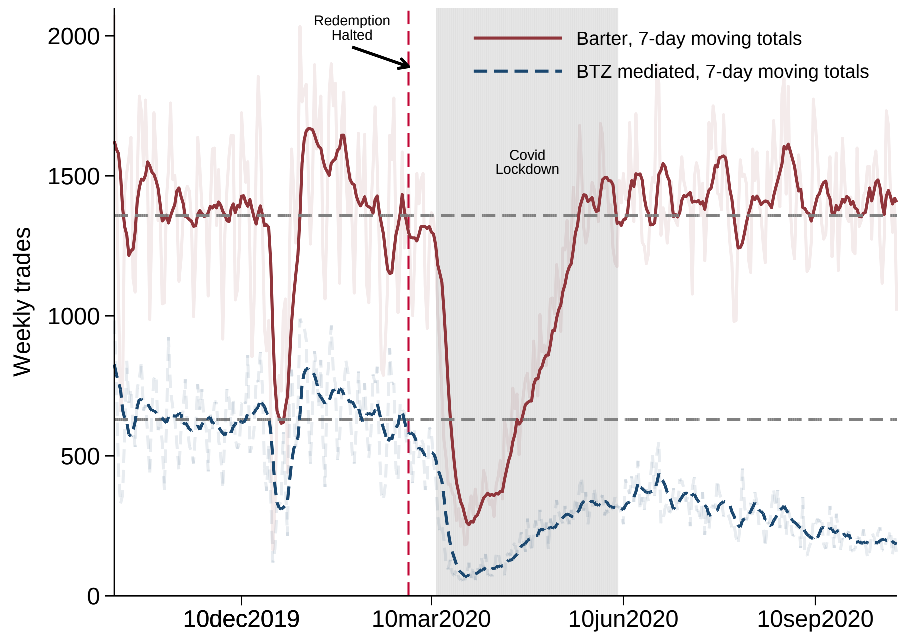
Notes: Public announcement by Bunz HQ on the Bunz website and app on February 28, 2020.

Table E1: Effects of redemption halt on token acceptance, existing regular users, low vs. high-frequency users

	(1)	(2)	(3)
		Token acceptance	
Post halt	-0.026**	-0.069**	-0.038
	(0.012)	(0.015)	(0.024)
Post covid	-0.091**	-0.112**	-0.115**
	(0.017)	(0.022)	(0.030)
Users' trades:	50-99	100-199	200+
Observations	21643	11314	5164
Users	1367	536	169
R^2	0.507	0.533	0.607
Pre-event mean	0.317	0.337	0.342

Notes: Table reports the effects of the redemption halt on token acceptance among existing regular users, for subsamples of users with the stated number of total trades in the available data, as measured by ratings received. "Post halt" indicates the weeks between the halt and the Covid lockdown; "Post covid" indicates the weeks after the lockdown ended; the lockdown weeks are absorbed by a separate dummy that is not reported; both are relative to the pre-halt period. Controls for user fixed effects and months after user entry are included. Standard errors clustered at the user level are in parentheses. * and ** indicate statistical significance at the 10 and 5 percent levels, respectively.

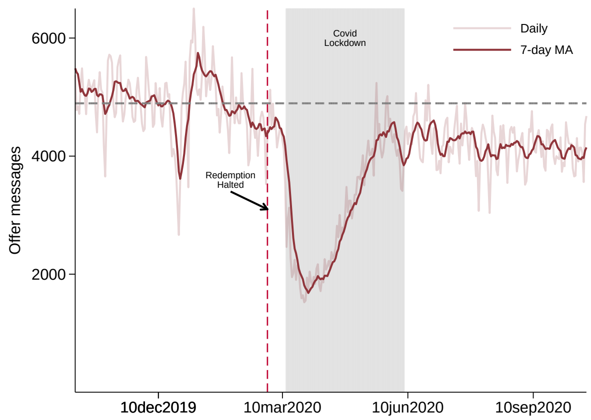
Figure E1: Effects of redemption halt on trade volumes, all users



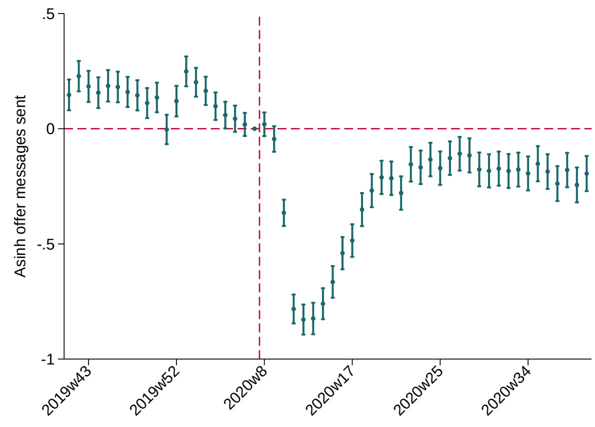
Notes: Figure shows the weekly number of peer-to-peer trades as measured by user reviews, decomposed by whether a token transfer occurred between the same user pair within 7 days. Gray bars indicate the period within the Covid lockdown. The dark lines show 7-day moving totals, while the light lines show daily trades at a weekly rate. The horizontal dashed lines mark the pre-halt levels. The red dashed line indicates February 28, the day redemption was halted.

Figure E2: Effects of redemption halt on offer messages sent

(a) All users



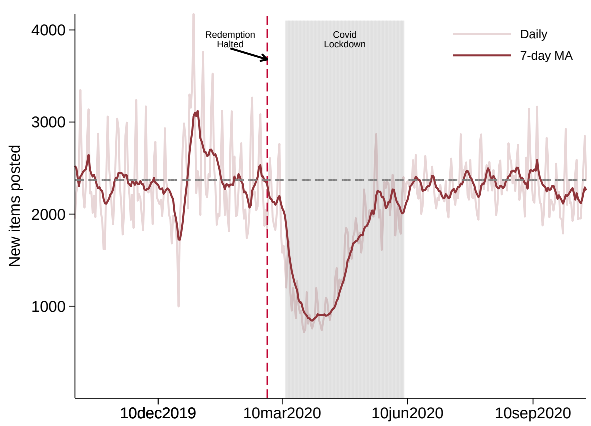
(b) Existing regular users



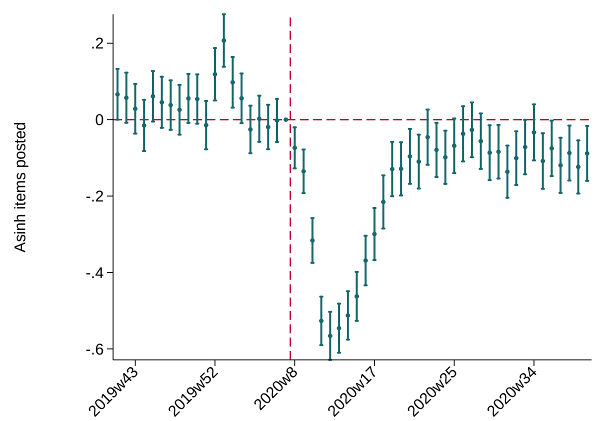
Notes: Panel (a) shows the daily trend in offer messages sent. The dark lines show the 7-day moving average, while the light lines show the daily trend. Panel (b) shows the event studies of redemption halt on offer messages sent.

Figure E3: Effects of redemption halt on items posted

(a) All users



(b) Existing regular users

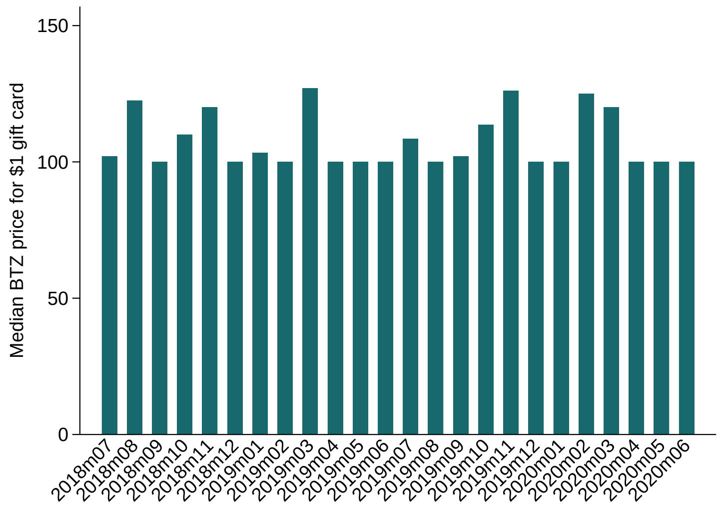


Notes: Panel (a) shows the daily trend in new items posted. The dark lines show the 7-day moving average, while the light lines show the daily trend. Panel (b) shows the event studies of redemption halt on new items posted.

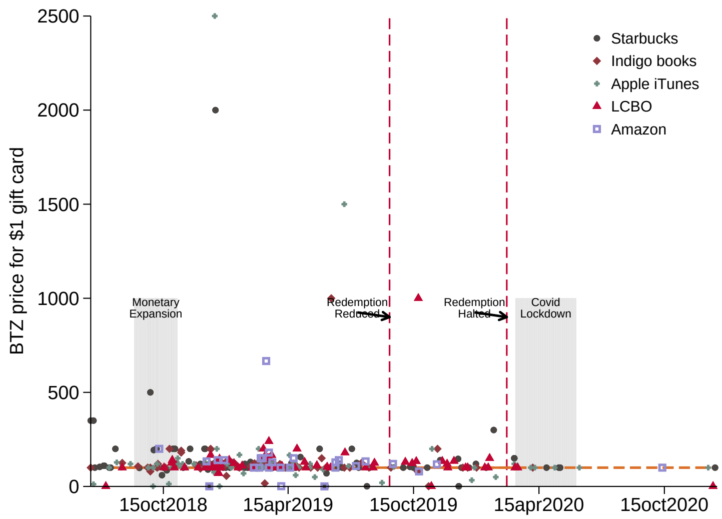
F Price Rigidity

Figure F1: Trend in posted token prices, all available data

(a) Median posted token price



(b) All posted token prices



Notes: The sample is all posted gift cards issued by Starbucks, Indigo, Apple iTunes, LCBO, and Amazon with an associated BTZ value and a discernible gift card value in the post title or description. Panel (a) shows the median exchange rate for each month. Panel (b) plots every posted gift card as a dot.

Table F1: Marginal effects of the three events on the posted token price

	(1) Median	(2) q25	(3) q75	(4) Wins. mean
Post-E1	−0.039	0.000	0.000	0.146
	(0.030)	(0.077)	(0.112)	(0.190)
Post-E2	0.000	0.000	−0.074	−0.322
	(0.042)	(0.089)	(0.131)	(0.237)
Post-E3	0.000	0.000	−0.108	0.112
	(0.057)	(0.108)	(0.133)	(0.372)
N	326	326	326	326

Notes: p is the posted BTZ price per CAD of gift-card face value; par is $p = 100$, and the dependent variable is $\ln p$. Entries are the change in $\ln p$ after each event relative to the preceding regime, controlling for gift-card brand fixed effects. E1, E2, and E3 denote the monetary expansion, the 2019 restriction, and the 2020 halt. Columns (1)–(3) estimate changes in the median, 25th percentile, and 75th percentile; column (4) reports OLS estimates for the 1/99 winsorized mean. Month-clustered standard errors are in parentheses. Table 4 in the paper reports the equivalence test for the median estimates.

G Interviews with a Frequent User

First interview: May 28, 2019

On May 28, 2019, the Bunz staff introduced me to a self-described "power user," who specialized in trading vintage books and had completed more than a thousand trades on the platform. Because of his deep engagement with the app, he had many insights about the mechanics of trade on the app. His observations therefore provide useful context for understanding the quantitative results in this paper. For this reason, I provide a partial transcript of the interview, which is reconstructed from handwritten notes and reorganized for clarity.

Author: How did you learn about Bunz?

User: I learned about it from Reddit. I've been on Bunz for four years now. I started when Bunz was still entirely on Facebook. I started trading because my friends had to give away their book collections, so I had two libraries to get rid of.

Author: How is the app different from the Facebook groups?

User: The Facebook groups are more chatty. The app provides a more durable posting. I can optimize for search visibility and time my posts. When the app was new, about half of the trades in the community happened on Facebook, so sometimes I would post on both. Now 90% of trades happen on the app. I don't post on Facebook for transactions anymore. I post on Facebook only for discussion.

Author: What do you trade on Bunz? Do you face competition on the platform?

User: I focus on vintage books. Books that don't have ISBN codes, hence cannot be fulfilled by Amazon (FBA). I source books from garage sales, library sales, Craigslist, and other platforms. I don't really have any competition on the platform. I'm the only "predator" bookseller on the Bunz platform. My real competition is mass market book sellers like Amazon. I cannot make that much money on Bunz because of competition from FBA.

Author: Why do you trade on Bunz?

User: Here are my options: Bunz, donate, or sell. I enjoy trading on Bunz, much more so than Craigslist. I can have conversations with the people I trade with. There is a feeling of community.

Author: How often do you trade?

User: I complete on average 2 trades per day. This is much more than most users, for sure. The value of trade is $3-25 per transaction. This is on the low end for users. Each day, I post 3 or 4 sets of books. There are many subcommunities on Bunz trading different things. The clothing subcommunity is totally different from books, for example.

Author: Do you have repeat customers?

User: Yea sometimes, up to 4-5 transactions. Sometimes I'd message them to market products.

Author: Do you prefer certain currencies?

User: BTZ and tokens are preferred. BTZ are useful, but it is like a hot potato. I also take cash or food. Sometimes, I'll take books to use as currency at a later date or sell them to used book store. I put hints into postings as to what is wanted (BTZ and token). I take BTZ for probably a third to a half of my transactions. The main thing is I want something that holds value. Gift cards are not personally useful for me, and I don't want to flip it for a loss. For BTZ, there is default risk. You don't want to accumulate it, so pass it around like a hot potato. The problem with BTZ is there's no exchange anywhere.
Author: Who pays in BTZ?
User: Two types: New users. They get a free book from opening a new Bunz wallet. Also heavy users who accumulate and then use BTZ.
Author: What do you do with your BTZ?
User: If I've accumulated BTZ, I mostly spend it down by eating at local merchants.
Author: How do trades happen?
User: About half of the time, the first message I get from an interested buyer is "I'll give you X tokens or X BTZ." The other half of the time, the first message I get is "I'm interested." I'll respond with "What can you offer?" I'll scan their profiles, but 90% of the time I'll steer towards BTZ or token. There are important breakpoints in conversation, where a buyer might drop out, such as when arranging a location. I don't typically negotiate much, since books are pretty low value.
Author: Do you choose whom to trade with / care about buyer reviews or reputation?
User: Reviews are not a super informative signal of buyer reliability. Many people will not review informatively. Number of reviews is more likely to be a reliable signal. For users with <20 reviews, I'll take a different approach. I'm less flexible and won't travel to trade. The main issue is flakiness and ghosting.
Author: Do you ever receive delayed payments or payments in advance?
User: Majority of time, trades are simultaneous. Occasionally, I may get advanced payment as deposit or because cellular data is wonky. Occasionally, I get deferred payment. Sometimes it's a new user who can't remember PIN, or bad cell data; sometimes it's a repeat user who is low on cash but can deliver BTZ later (pre-arranged before meeting). I'm usually nice and forgiving to new users because I want to be a good representative for the platform. Bunz's "Have fun" ethos is important to me. Building a good platform requires building a good culture: If everyone on the platform is nice, eventually you will be nice as well. I'm not sure you can replicate this culture anywhere else. Cool people were participating on Bunz at its start. That matters a lot.
Author: Has the introduction of BTZ changed the platform over time?
User: The original demographic was impoverished art students. Trades that are unequal in value were part of the appeal of Bunz. The lack of double coincidence of wants was a real thing. People can get lucky with a deep discount occasionally. This feels like magic. The introduction of BTZ cut

down on this “magic.” It’s not as fun anymore. Over time, people on the platform care much more about monetary value of items. They moved more towards a Craigslist view of the world. After introduction of BTZ, frictions are lower, so margins are lower, but I make this up with volume.

Second interview: October 18, 2019

About five weeks after the currency crisis, I spoke with User to hear his perspective. Below is a transcript of the interview, which is reconstructed from handwritten notes and reorganized for clarity.

Author: Tell me what happened.

User: It was about a month ago now. It was like a very little miniature demonstration of what a crisis of confidence in a currency looks like. It was like Venezuela trying to impose capital controls on spending. You could almost predict what would happen.

From the users’ perspective, there was a reduction of the scope of the Shop Local program. The change was that you can now only redeem at restaurants instead of the full set of merchants. This was seen as a serious reduction in the utility of BTZ. Coupled with the layoffs, this change put into people’s minds the question of the viability of the whole operation. This is something, apparently, many people had not considered. A large majority of users had never thought about the underlying financials and economics of what’s going on.

A lot of the outrage is understandable but also manufactured. A lot of people had balances of BTZ, and were saving up for some service. For example, tattoos. Some lady saved up a hundred dollars for wedding gifts but could no longer buy those items. The CEO had commented that they would commit to a 30 days notice, but they did not do so. People discovered at the shops. The merchants just got this notice that their relationship was terminated. Not ideal management. But they needed to close the gate before everyone went running for the exit.

What’s interesting is they have continued to operate restaurants. There still was a rush to the exit. I’ve been eating like a king. At some point, these BTZ may become valueless. So people are driven to spend.

Things have kind of stabilized now. BTZ are still being accepted at the reduced number of merchants. There were interesting effects on liquidity of BTZ. Lots of people stopped accepting BTZ. But at the same time there’s a weird little force in the other direction. If you were to accept BTZ, then transactions are temporarily really fluid.

Author: How were you personally affected?

User: I’ve managed my BTZ very well, so it wasn’t so bad. I held only about a hundred dollars of BTZ at the time. Others may be in a different economic strata too. For a period of time, I stopped taking BTZ. Took a trip away for two weeks. I’ve turned on the tap again now. Started about a week ago. Balance is low enough that I don’t care about the risk. It is a fortuitous coincidence: I always spent my BTZ mostly by eating. So I'm still able to cash out in the same way. And actually, trading is easier now, since people really want to get rid of their BTZ.

Author: Has the nominal BTZ price of books gone up?

User: Yes! Absolutely. There is a premium. People are just making up whatever premium for the risk. I'll add on 10-15%. What's the actual risk premium is quite unclear. No one knows what the risk is.

Author: At what price did BTZ trade after the announcement?

User: Immediately someone decided to profit off of this situation. They tried to sell TTC tokens at a rate of 10 to 1. The reaction to that post was very interesting. Lots of people reacted negatively to it, saying he was profiteering from the situation. But this is hypocritical because they themselves are no longer taking BTZ. They would say: Capitalism is terrible. And they piled on this guy. Somehow he crossed a social norm.

There is premium for taking BTZ, but market consensus regarding the exchange rate has not occurred. There's no public record of trades. You cannot look up a price. So the valuation of BTZ is opaque. You can see the posted prices, but you don't know what the final trades are.

Author: Did your personal transaction volume change?

User: Things were somewhat unchanged for me, since I sell books. For larger value items, liquidity is more impaired. For trading with someone who might have been willing to take BTZ before, you would now have to use a different currency. Some people are still taking BTZ, but the premia are all over the place. Some even at face value. But immediately, 50% of sellers stopped taking BTZ.

Author: Have people left the platform?

User: Yes. The noisiest departures were for ideological reasons. This is related to the historical genesis of the Bunz community, which has a communist/hippie mindset, utopian ideals. So the Facebook groups decided to disassociate with Bunz. Renamed themselves to PALZ. Whether this will affect the trading on the app, I don't know.

Author: Were most people on the app aware of what happened to the Shop Local program?

User: It was widely known because there are people who stopped taking BTZ. You see this on people's profiles and in the messages. It's unfortunate, because the currency was operating smoothly. Adoption was pretty decent. Currency was circulating before it "leaked" out through people like me. The problem in fact is more that people could not get BTZ readily. Even if someone wanted a thousand dollars of BTZ, they could not get it. There was a liquidity crunch in the other direction.

Author: Have sentiments shifted in the month after the initial shock?

User: Things have settled down. More people accepting BTZ and risk premia is now lower. All the outraged people have just left. The only people left are the pragmatic people and newbies who don't know better. They think the platform still works, so I'll post my armchair here. People have short memories. But overall confidence in the currency is still low because no one knows whether they can continue to operate the Shop Local program. Nobody knows what their runway is. For sure, trade volume has decreased.

It could also be good for the platform to get rid of the ideologues. A lot of emotions flying around. They have a certain mental model for how the company should behave, but the company sort of had to do what they had to do. They chose not to shut down. Bunz is still perfectly usable in terms of functionality. Shop Local still operates. It's effectively like going back to launch time. They started out at just a handful of coffee shops. But the perception has now changed. Lots of cynical people knew this was going to happen.

Author: Do you know how the Shop Local merchants were affected?

User: Merchants were redeemed up to some date. Everybody was made whole. They didn't receive their 30 days notice. If accepting BTZ had been part of your sales/marketing, e.g. 10% more sales due to accepting BTZ, then suddenly there's a revenue decrease. Negative is future cash flow is shut off. Negative reputation effects of that.

Some restaurants stopped accepting BTZ as well. Over the course of history, restaurants and stores have joined and left, but this was never a problem. There was a lot of confusion in terms of what was happening. IQ foods was still taking BTZ, but they temporarily froze on taking BTZ. But presumably this uncertainty was resolved and they began to take BTZ again.

Author: Is the pressure of money flowing out through redemption still the same?

User: It is definitely harder to spend a thousand dollars at once if the valve is coffee.

Author: Do you know what Bunz HQ's plans for the future are?

User: Listing BTZ on an exchange seemed like a long-term intention, like they would eventually allow the currency to float. But it ended up working more like corporate loyalty points. People are still using it because it's convenient to do so. But this is much more limited now. Rumors are the pause was driven by a failure to find financing. They could take the code and re-brand, try to launch elsewhere. There is no news, so nobody knows where the company is.