



Combating The Effects of Bitcoin's Price Deflation

By Daniel Mark Harrison

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1.0 Introduction – The Problem

1.1 Bitcoin Supremacy In Crypto

When Bitcoin was first introduced to the world in 2009, there was no official launch of the first Blockchain currency. The act of "offering" coins to Crypto buyers really came into being in 2014, as new Blockchain-based digital currencies were introduced on the NeXt exchange and the Omni platform.

Ultimately, this short-lived period of hype in initial coin offerings was quashed for 3 years in a "Crypto recession". Even during this period, crypto offerings were relatively hard to come by. In fact, Vitalik Buterin's \$10 million raise for the Ethereum project was conducted more in the style of a traditional crowdfunding campaign, and much less so as a Crypto offering. Ultimately, Ethereum's success was what reignited the Crypto landscape, as the currency soared in under two years from pennies in value to settle around \$400 a token. During 2017, ICOs made a comeback after 3 years and became a mainstay feature of Crypto, with exchanges charging fees of up to \$150,000 for listing placements. Over 200 individual ICOs purportedly raised over \$2 billion during 2017, culminating in a post-ICO average return for Crypto investors of 1,320% once listed on Crypto exchanges.

The effect was to create a huge uplift in the price of Bitcoin, which became a default mode of value storage for many of the ICOs that were receiving increasing levels of funding. Compounding gains in Bitcoin by year end was the introduction of financial futures contracts predicated on long-side Bitcoin bets. The result was that by the end of the year, Bitcoin was rising over \$20,000, from a starting point in January of barely over \$700.

An ascending Bitcoin price creates stagflation in a cauldron of innovation in growth, resulting in the further reinforcing of the deflation effect of the supreme currency until one by one, all of the Crypto in the 1,000+ coins on CoinMarketCap will become suffocated by the almighty beast that started it. At the rate things are headed, Bitcoin will be the only Crypto trading in 5 years from now, and it will trade against sovereign – not Crypto – currency pairs.



1.2 Functions of A Bitcoin Replacement

Alternatives to Bitcoin are required if Crypto is going to retain the broad momentum it has experienced in 2017. If not, another 3-year – to 5-year long Crypto recession may be what lies ahead. Preferably, the ideal alternate Blockchain currency would not be a token issued in the form of an ICO, since this would make it just like any of the other 1000 Crypto that are supposed to be traded against it.

A suitable Bitcoin alternative would have some sort of legacy from the pre-\$1000 Bitcoin days, around 2013 or earlier. It must be a relatively unused Blockchain and maintain a more complex mining algorithm so that too much supply does not dilute the coin's growth. This coin can be "re-offered"/presented to the public as a debut trading pair and as a speculative unit of value on exchanges with high volumes and active trading participation.

1.3 Introducing Alternate Pairs

1.3.1 Alternate Pair Exchanges (APE)

This White Paper introduces two new concepts unknown to Crypto until present: The Alternate Pair Exchange (APE) and the Secondary Coin Offering (SCO). The notion of APEs springs from the idea that with Bitcoin's massive ascent in value and Ethereum's commodity-like qualities, the current *modus operandus* of most exchanges, whereby all Crypto is traded against BTC and/or ETH, is simply outdated and redundant. In fact, this is leading to a dramatic undervaluation of altcoin pricing.

Bitcoin is becoming unaffordable to many retail investors, as evidenced by the rise of BTC's share of the \$200 billion-plus market from around 45% in early 2017 to up to over 65% of the entire market by year-end. The massive increase in Bitcoin's market share hampered altcoin trading volumes and price increases for the final quarter of 2017, so that even very large ICOs such as Presearch, a Crypto search engine part-founded by the Ethereum co-founder Anthony D'Iorio, traded only \$100,000 on its first day trading on HitBTC in December. People are afraid to give up their BTC in exchange for something speculative.

An APE is not a decentralised exchange such as Waves, where one can trade any currency pair against another as one wishes. Rather, a specific coin is selected from outside the regular large-capitalised remit of Bitcoin and others. Cryptopia is currently the closest example there is to the APE, with offerings of Litecoin and DOGE as alternative trading pairs to Bitcoin.



1.3.2 Secondary Coin Offerings (SCOs)

A successful SCO requires one or more new Cryptos with a near-complete similarity in terms of technological functionality to BTC, but which are faster to send and receive, cheaper to purchase, and have none of the depreciation-exporting qualities that Bitcoin has presently. Ideally, a vintage Crypto from 2013 or before is preferred. This will contain the widest possible network of mined coins, as well as several lost coins that have been trapped in cold storage wallets on discarded hard drives etc. This artificially constrains supply, making it easier for the coin to gather market capitalisation momentum, even as it is increasingly used to purchase other Crypto. The proposed way in which this Crypto might be “re-launched” to gain sufficient attention from the Crypto community is as part of an SCO.

An SCO would not necessarily constitute a direct offering of the coin to the public (although it could via a number of mechanisms discussed within this paper), but would conceptually give the Crypto the ideal platform upon which it may be re-marketed in a present tense context, in light of the Bitcoin market share dominance problem, or in light of Ethereum’s gas-burning effect. Ideally, this SCO would allow such a coin a legitimate place on an APE which features 2 or 3 alternative trading pairs to Bitcoin and Ethereum.

1.3.3 Characteristics of an APE SCO

If we are to introduce new trading pairs to Crypto, the new Bitcoin-supplement must not be a replacement for Bitcoin itself as a primary mode of value storage and transmission online, but rather as a cheaper, easier substitute where there is less concern vis-à-vis security, and which has the consequence of creating less of a burden on Bitcoin’s Blockchain’s network protocol. The problem here was very real by December 2017, with over 200,000 transactions going unprocessed in a backlog of unfilled transmissions of Bitcoin by the start of the month. Many transmissions went unfulfilled for as long as 2-3 days due to the burden the network was suffering due to the rising demand for the digital currency by institutional buyers.

It is worth stating here that a coin that would be a suitable replacement for Bitcoin would not be so much a commodity as a simple method of value transmission. In other words, it would not “burn” in the way that Ethereum does, which makes the currency wholly unsuitable for trading. Rather, it would simply issue a finite number of units, but preferably far more units than Bitcoin does.



2.0 Zurcoin

2.1 History of Zurcoin

Zurcoin was introduced to market on December 30, 2013 by developer Shai Weinstein. The digital coin was announced with the following parameters:

Max Supply: 126,000,000 Zurcoin / Block Mined Every 42 Seconds / Block Reward 42 Coins (decreasing 50% every 1,500,000 blocks) / Premine of 500 blocks (given away) + 1 million coins donated to a Zurcoin Faucet / addnode=50.116.55.60

"I'm new to crypto currency so i maybe screwed things up" added Zurcoin's developer somewhat comically on the coin's Bitcointalk introduction post. As for much of tech innovation, the relatively curt personal marketing style of the introduction of Zurcoin disguised a much more compelling history that lay behind the development of its code.

2.2 Quark & The "People's Currency" Catastrophe

Zurcoin's script is almost entirely based on a currency called Quark. Quark was relaunched SCO-style in July 2017 in what may be the first SCO to date. The coin has a controversial legacy.

Quark was launched 6 months ahead of Zurcoin, and by December 2013, when Zurcoin was just emerging onto the scene, Quarkcoin by then boasted a \$50 million market capitalisation. Technologically equal to Bitcoin, Quarkcoin's supply was issued all upfront and intended to be distributed over time by the coin's developers over a vast range of Crypto buyers. The unorthodox move, which represented a philanthropic response to what the developers perceived to be nefarious centralism on the part of Bitcoin's major holders, attracted the attention of leading Australian economist Bill Still.

"It's just like playing a classic penny stock but one which has the chance of following Bitcoin's climb upwards" said Still, introducing Quark on his weekly show that Advent.

"It's the product of the wild west; we think it's a fairer system and a better distribution (than Bitcoin's) ... Cryptocurrencies are here, they are a fact, they are not going away; I just think they could be a little better designed in terms of serving the people than they are now," Kolin Evans, Quark's lead developer, told Still on his show via Skype.



"So you would like a more decentralised form of Cryptocurrency than Bitcoin's was when it was implemented ... [because] it's obvious now that only huge server farms can mine bitcoins effectively," Still countered.

"Bitcoin went from zero to hero so it suffers from that problem that it was the first-of-the-first. It's well-intentioned ... but it requires specialised software to mine which means it is fantastically centralised," Evans explained, using mock air quotes. "So, most of the bitcoins in existence could be owned by as few as 100 people."

That interview and the resulting press it accomplished in courting pushed Quark up to one of the biggest Cryptos on CoinMarketCap.

What happened next is still to the present day the subject of much controversy. There is a contingency of developers who claim a conspiracy existed between Evans and Still wherein the two colluded to "dumped" Quark and make a quick killing out of an over-hyped market following the press and subsequent enthusiasm generated in the Crypto community surrounding the coin.

The much more likely explanation however is Evans' rather stranger one: he maintains that the wallets in which most of the Quark was stored for future delivery were hacked following the Still interview. The source of the hack, says Evans, was the big Bitcoin stakeholders who wished to wipe out any potential challenge to their (back then still tenuous) lead as the world's number one Crypto.

The hackers, according to this account, unloaded all the previously-escrowed Quark onto the market, destroying the Crypto's core value proposition completely, and they used the proceeds of the sale to repurchase huge quantities of Bitcoin, pushing it up over the \$1000-mark for the second time in history.

The claim is credible. At the end of that year, the massive unloading of millions of Quark follows a circumspect pattern to that of Bitcoin's price rise. Quark was sold heavily into the market between December 13th – January 14th. Between December 18th – January 6th, about the way through which the heaviest of the Quark selling would have occurred, the daily traded volume of Bitcoin doubled overnight after a post-Christmas sell-off and pushed it over the \$1000-mark from just \$560 beforehand.



I knew Evans very well and worked with him closely during 2014, in which period I designed with him a predictive equation for Bitcoin's mid-2017 price which turned out to be right on the money: \$2469. Evans was one of the most intelligent, brilliant minds I have had the pleasure of working with, and I finally understood the way he must have felt at the end of 2013 when a similar sabotage was wreaked on a token I introduced to the market via Waves DEX following its ascent to 0.5 BTC (the highest price a Crypto had ever gotten to since Quark held the record of 0.25 BTC, ironically) in the same month as the equation we had developed 3 years prior hit its price forecast on the bullseye.

2.3 Zurcoin's Trading History

Zurcoin has almost the entire opposite trading history to that of Quark, since the developer modelled half the mining algorithm on Bitcoin's. The effect of parsing half a fork of Bitcoin and half a fork of Quark was one which produced a steady, slow stream of multitudinous coins that rarely traded more than \$100 in volume per day over the course of the 3.5 years before I loaded up on it.

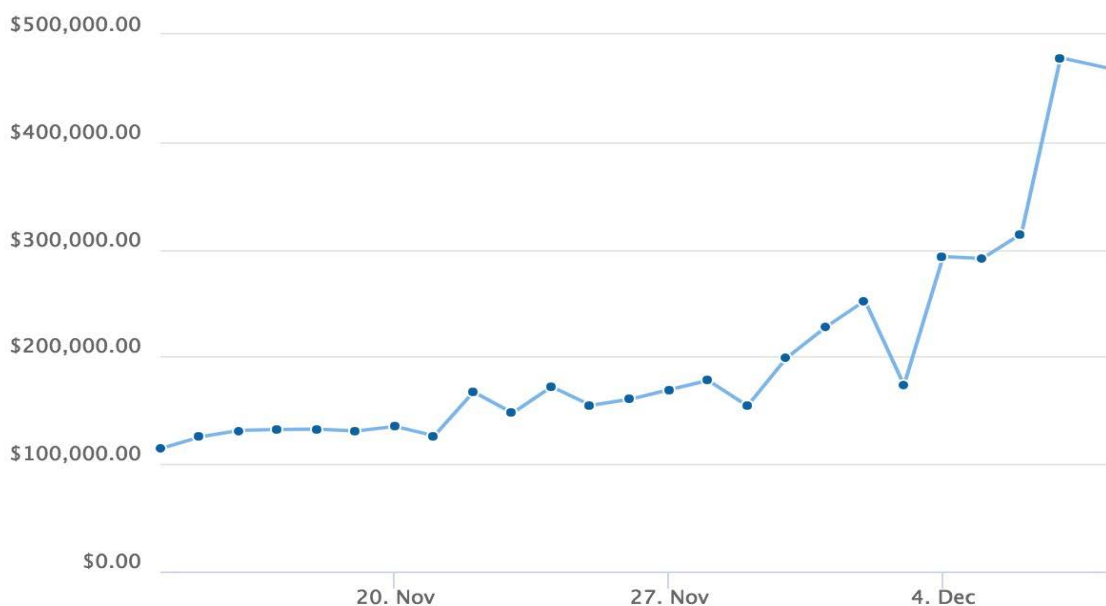


Figure 1: Zurcoin's price ascension since being added to CoinGekko on Nov. 14, 2017

Zurcoin's original source code on Github had a message which the developer ascribed into the code itself. It went something like, "We miss you, Daniel." This explains the reason the coin was created – as a technological tombstone to a close friend of the developer who had passed away. The two used to call one another Zur, and hence the name Zurcoin.



Because of this explanation which existed in the original Github profile, I believe that the coin was never “pumped” or abused on Yobit exchange, where it traded for years without any volume whatsoever. Zurcoin is then a version of Quark – which itself is an economically-superior but technologically-identical digital currency to Bitcoin. When combined with the observation that it has gone completely untouched for the best part of its entire history it becomes clear that Zurcoin is, in essence, a living Bitcoin fossil with a significantly less deflationary supply. In other words, Zurcoin is a profoundly more decentralised currency than is Bitcoin with the same robust Blockchain technology powering it. Zurcoin is the ideal alternate trading pair, in other words, for introduction into a world of Bitcoin-centric deflation.

2.4 Zurcoin's Distributed Ledger

Evidence of Zurcoin's more equitably distributed status is demonstrated by the large spread of holdings. There are over 56,000 total wallets that hold Zurcoin, by far the majority of which belong to miners, but which only count approximately 10 million coins in number.

The remaining 75,735,727 other coins that do not belong to miners belong to a group of 440 wallets. Of these wallets, the largest holder is in possession of 6,389,409 coins (8.44%) while the smallest holder owns 1,100 coins (0.001%). The average holding of the 440 top wallets is 172,127 coins, with a standard deviation between averages of 601,229 coins. While this is admittedly a rather high standard deviation, it must be taken into context with the observation that many of these coins have not moved in very long periods of time and represent coins that haven't been in circulation for years.

3.0 Making Zurcoin Global

3.1 Listing On Larger Exchanges

Zurcoin had undergone around 5-6 months of trading with an average daily volume of \$33,000 by December 2017, and had an average daily market capitalisation of around \$250,000.

While still small, this compares to \$31 average daily volume and \$16,000 market capitalisation before my hedge fund bought into the coin in the summer.

This re-offering could be considered to constitute the coin's Secondary Coin Offering (SCO). By definition, an SCO should only be ascribed to a coin which never had an Initial Coin Offering.



In this way, it is a replacement for the non-event that the ICO failed to become. Zurcoin fits this definition perfectly and can thus safely be launched by means of a website revamp, additional public relations, a new white paper – which it is you are reading now – and other standard marketing fare for the coin. After that it can be introduced to new exchanges.

As a result of the interest that such purchases generated in Zurcoin from miners and the wider Crypto media, CoinGekko listed the coin and Cryptopia offered to have it trade on exchange. Bigger exchanges such as HitBTC and possibly Binance would be the logical next destination for Zurcoin, and the listing of the coin on these exchanges combined with a public relations-offensive would likely see the digital currency improve a similar number of times in value to that which it did during 2017.

If this was the case, then around \$100 million + market capitalisation would be achieved. Utiliting the coin in ICOs as payment capital would also significantly increase Zurcoin's payment utility.

3.2 Implementing Listings on APEs

Another development for Zurcoin will be for it to be the denominating Crypto asset against which other altcoins are traded. In other words, if Zurcoin pairs were readily established on a few leading exchanges, the price performance of the coin due to its improved payment utility would be greatly enhanced.

Zurcoin	% Total
6,389,409	8.436%
4,772,207	6.301%
4,301,903	5.680%
4,072,641	5.377%
3,200,000	4.225%
2,934,251	3.874%
2,658,591	3.510%
2,400,000	3.169%
2,112,656	2.790%
1,864,398	2.462%
34,706,055	45.825%

Google Trends

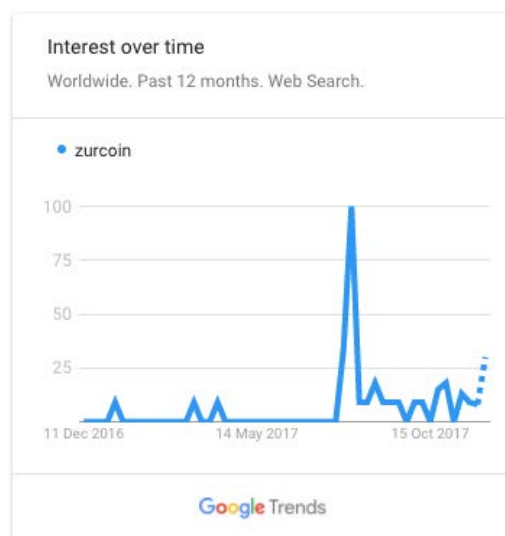


Figure 2 & 3: Top 10 Holdings & Google searches conducted for Zurcoin



This would be especially true if a number of traditional exchanges could be persuaded to become Alternate Pair Exchanges (APEs) as a result of introducing Zurcoin, along with a couple other potential contenders. Zurcoin, for instance, might be introduced as alternate trading pairs along with Litecoin, under the premise that the coins would help stimulate altcoin trading volumes due to their less value-intensive consumption of the market and lower implied export of price inflation.

3.3 Building Counterparty Application

Among the discussions held for the future of Zurcoin is the possible installation of a Counterparty application which would give the Zurcoin blockchain token-making facilities as well as the ability to create specific digital agreements, or programs known as Smart Contracts, which can be executed on the Zurcoin blockchain. Smart Contracts are a revolutionary technology which opens the door to endless possibilities. By using the Zurcoin's decentralized ledger network and Counterparty's built-in scripting language, real-world scenarios can now be transformed into code and executed automatically with no need for an intermediary.

3.4 Undertaking Proof-of-Stake Hybrid Fork

Further under discussion is the possibility of converting Zurcoin's Blockchain protocol from a Proof-of-work to a Proof-of-Stake mining algorithm. The best example of POW around is Bitcoin; perhaps the best example of POS is Peercoin.

In the past 3-year period, bitcoin has risen around 2100% while Peercoin is up about 170% by comparison. Clearly, by making increases in supply so readily available so easily to holders of the coin, POS Blockchains ultimately undermine the value exponent of the utility factor in the coin.

Zurcoin is a POW coin that has laid dormant for 4 years; after it was purchased in August over a period of around a week by a single purchaser with approximately \$250,000 in funds, and by other buyers following suit, the coin came to be actively-traded and showed regular trading volumes.

Despite the relative value erosion that wallet mining can cost a coin, there are certain advantages to it. POS mining is more efficient, cleaner and easier for the user than POW mining, since it takes place while the coin is stored inside a Blockchain wallet. By converting Zurcoin's Blockchain into a combined POW/POS Blockchain the coin will achieve scale dominance while retaining its value during the second act of the coin's growth trajectory, which is set to be very large.



Despite the huge rise in the price of Bitcoin, there are signs that it may become less appealing to investors as an asset to be held in any quantity largely because of the deflationary tendency of the coin. As Bitcoin begins to deflate in increase of supply, so its price begins to rise at an exorbitant rate. The problem with this is that it has the net effect of exporting inflation onto the rest of the Cryptocurrency landscape.

This is because while a high Bitcoin price is attractive for those holding presently who wish to sell, it is significantly more expensive to buy in any whole (or even for some, standard fractional) quantity. Multi-fractional purchases are not appealing psychologically to buyers either. We believe that Zurcoin's POW-POS fungible Blockchain may be the answer to the opposite, but equally problematic issues that Bitcoin and Peercoin suffer from.

In the case of Zurcoin, following the trajectory of both Bitcoin and Peercoin would have resulted in a 1200% price rise over the last 3 years; these are standard high returns looked for by Crypto investors. Therefore, we see this fungible dual-currency scenario as being a potential solution to overly-aggressive value return and overly-aggressive value erosion see in POW-POS assets.

If Zurcoin was to rise by the same amount next year as for the last 6 months, we would be looking at a \$400 price per ZUR. At this point it is a well-established APE pair.

3.5 Undertaking Other Hard Forks of Zurcoin

The possibility of hard forking Zurcoin was examined in the previous section. Hard forking essentially produces a short-term demand in the Crypto being forked, since it means the holder receives another symmetrical equivalent of coins after the software of the Blockchain is forked.

This was the case in late 2017 with the hard forking of Bitcoin into numerous alternative Bitcoin currencies, the most famous of which is Bitcoin Cash, helped BTC to notch up over 1200% in late-year gains.

Forks of Zurcoin including POS hybrids, reduced supply POW coins and even a ZurToken which may function as a gas-type product such as Ethereum. These are all tried-and-tested possible implementations in the maturity of Zurcoin.



4.0 Roadmap for Zurcoin

- **Q4 2017:** List on Cryptopia, Update White Paper and Website
- **Q1 2018:** Hard Fork of Zurcoin and cut supply with a 1-for-100 reverse coin split; thus 870,000 Supply + 250,000 premined coins + up to 1.49m coins mineable via POS and via POW (POS: 100 coins per node is mineable). Total Supply: 1.49m Zurcoin.
- **Q2 2018:** Undertake Secondary Coin Offering (SCO) of the 250,000 premined Zurcoin produced in the fork and begin development of Counterparty application on the protocol
- **Q3 2018:** List Zurcoin on 3x more exchanges (target Binance, Bittrex & HitBTC) and finish development of Counterparty application on the protocol. Second Hard Fork of Zurcoin.
- **Q4 2018:** Engage ICOs in the process of accepting Zurcoin as means of payment and as value storage
- **Q1 2019:** Begin to enlist Zurcoin as a trading pair on Alternate Pair Exchanges (APEs). Third Hard Fork of Zurcoin.

5.0 Conclusion

5.1 Recap of The Problem

- BTC is not in a bubble; it is disconnecting from retail investors and moving out of their reach towards High Net Worth and institutional players
- ETH is wholly insufficient as a trading currency pair to carry the shortfall; it burns like gas and is adopting POS - both events give it a lackluster strength
- The problem is pitched right in between two pairs that's are wholly unsuitable for altcoin trading which is traditionally where most of the retail Crypto investors make money and where real technological innovations take shape
- Reinforcement of this success is such that BTC continues to surge higher while the retail market wishes it lower. Ethereum meanwhile keeps burning up even as it trades higher, ultimately compounding stagflationary pressure
- Trading the dominant digital currency pairs helps in neither case but rather corroborates the inevitable hyper-deflation recession that looms (stagflation)
- The scenario amounts to Blockchain like "the worst good news ever"; in other words, Crypto is finally going mainstream but there's a real chance that may mean the party is over for the little guy



5.2 Effective Prescription For Halting Deflation Innovation

We are witnessing what may be the first instance of deflation innovation in history.

It is clearly established that bitcoin is exporting massive price deflation across the Crypto landscape. At the same time, few digital assets have laid uninterfered-with for sufficient time to build a deep and wide network without being overly-centralised in the way that Kolin Evans pointed out had happened in the case of Bitcoin (indeed this is a major part of the reason for the Bitcoin price deflation effects now).

Zurcoin offers the Crypto world not just a second chance at an uninterrupted Bitcoin-type price escalation, but a clear and profound opportunity at the same time for the market to recorrect back to one whereby altcoins are fluidly traded against inflationary assets that simulate the overall price direction of the market.



6.0 Resources

- *Bitcoin's Deflationary Problem (The Economist):*
<https://www.economist.com/blogs/freeexchange/2014/04/money>
- *Value Coevals (Harrison):* <https://corporate.monk3y.com/White-Paper.pdf>
- *The Age of Factory Banking – Video (Harrison):* <https://www.youtube.com/watch?v=tBeVd-kaGB4>
- *Bitcoin To Over \$30,000 (Coinspeaker, Harrison):*
<https://www.coinspeaker.com/2017/06/01/value-virtual-asset-bitcoin-will-30000-2020/>
- *Theory of Reflexivity (Soros):* <https://www.ft.com/content/0ca06172-bfe9-11de-aed2-00144feab49a>
- *Theory of Bipolar Markets (Harrison):* <https://www.coinspeaker.com/wp-content/uploads/2017/05/The-Theory-of-Bipolar-Markets.pdf>
- *The Problem of Stagflation (Meltzer):*
<http://repository.cmu.edu/cgi/viewcontent.cgi?article=1745&context=tepper>