

EGORAS

An incentivized, blockchain-based, Recommerce/Resale Marketplace.

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Abstract

Egoras is a blockchain based recommerce/resale marketplace that allows sellers and buyers of used items to exchange value quickly without any third party that can look over or manipulate transactions. Egoras combines concepts from recommerce with lessons learned from building cryptocurrencies. An important key to inspiring participation in any marketplace, currency or free market economy is a fair accounting system that consistently reflects each person's contribution. Egoras is the first cryptocurrency that attempts to accurately and transparently reward an unbounded number of individuals who creates value in its marketplace.

Introduction

Resale or retail? Can you tell the difference? Probably not! Today's resale shops look the same as mainstream retailers... except for one big difference—they sell high quality goods at lower prices! The resale industry offers "Quality at a Savings!"

While many businesses close their doors every day, resale remains healthy and continues to be one of the fastest growing segments of retail. With new stores entering the industry and current establishments opening additional locations, the industry has experienced a growth in number of stores of approximately 7% a year for the past two years. This percentage reflects the estimated number of new stores opening each year, minus the businesses that close.

Resale industry is multi-billion dollar yearly as net worth. There is a major discrepancy on annual revenues reported for the U.S. resale industry. First Research estimates the resale industry in the U.S. to have annual revenues of approximately \$17.5 billion including revenue from antique stores which are 13% of their statistics. ThredUP, an online resale marketplace, pegs the total resale market in 2018 at \$24 billion... predicting it will reach \$64 billion by 2028. The RealReal, a luxury consignment site, reported revenues of \$207 million in 2018 and estimates 2020 revenues of \$406 million and 2022 revenues of \$700 million. In a Barron's article, Cowen retail analyst Oliver Chen estimates that The RealReal has a 14% share of the growing \$7 billion U.S. market.

Egoras aims to support a re-commerce/resale marketplace by returning much of its value to the people who facilitate the exchange of value by rewarding them with cryptocurrency, and through this process create a currency that is able to reach a broad market, including people who are yet to participate in any cryptocurrency economy.

The core value of Egoras: the most important is that everyone who contributes to a venture will receive pro-rata ownership, payment, or debt from the venture. This is the same principle that is applied in all startups as they allocate shares at founding and during subsequent funding rounds.

The second core value is that all forms of capital are equally valuable. This means that those who provide value to Egoras marketplace and in validate transactions are just as valuable as those who contribute their scarce cash.

The Egoras marketplace provides the following services to its users:

1. A marketplace to buy items at a premium price.

2. A stable cryptocurrency pegged to the US dollar.
3. A highly moderated marketplace with no third-party control.

Egoras purposeful realignment of economic incentives has the potential to produce results for everyone involved that are more fair and inclusive than the re-commerce/resale marketplace platforms that have preceded it. This paper will explore the existing economic incentives and demonstrate how Egoras incentives will result in better outcomes for its users.

Scope Of The Problem

When we first started to analyze reasons behind the difficulties of global adoption of a re-commerce marketplace, we sort for possible solutions and then wondered who else will benefit from the approach in which we will take to address the problem. We then incorporated those parties to synthesize new problem scope and tried to find the solution to newly defined problem. As in any of those exploratory endeavors, One must not forget to limit the problem scope to minimum, and to look for solutions providing maximum benefits to parties involved.

Barriers to Entry

It has become more and more difficult to just jump on marketplaces like Amazon and start selling. As the platform continues to take on new sellers who don't always follow the rules, Amazon for example had to become more strict in allowing who can sell, what can be sold, and how.

Sellers must receive approval to sell clothing, shoes, handbags, automotive items, and many more types of inventory. The list of categories requiring approval keeps growing. And it isn't that easy to be approved.

Delay in payment

When you sell an item in most big marketplaces, payment is made by direct deposit to your checking account every 14 days, unless you're one of the lucky few who still has a legacy account that allows you to request payments as often as every 24 hours.

Some marketplaces like amazon does not accept PayPal from buyers. That can be a problem if you are using the revenue from your sales on other platforms to purchase more inventories to sell.

Competition is Brutal

Most sellers don't sell their own one-of-a-kind items. They simply resell items they've purchased from wholesalers or suppliers in bulk, just like a retail gift or other shop. The issue is, if you can buy it in bulk, then many other people can too, which creates a large degree of competition for the same items.

This has led to many sellers creating unique products with the help of companies that will put a seller's brand name on an existing product and make small customization to the product such as minor color, fabric or formulation changes. These are known as private-label or white-label products, and they're a halfway point between reselling existing products and creating your own from scratch.

Some marketplaces has also experimented with different tools to help sellers beat the competition in various ways, by adding the ability to automatically reprice your products, clear out aged inventory, and optimize your listings with keywords.

Sellers who grow their bottom line profits year over year faster than their top line sales tend to fare better. With many sellers using repricing software to automatically change their prices to stay competitive, as soon as one seller out prices another, it sets off all other sellers' re-pricers, and a downward pricing spiral begins. The only winners are the buyers who get items at a very low cost.

Non-Transparent Marketplace Sanctions

The arrival of best match search placement and detailed seller ratings in recent years has led to a shadowy set of rules and criteria by which most marketplaces seems to make some sellers effectively disappear or suffer by moving sell orders to the absolute end of search results, preventing them from appearing on category pages for common items or even in search results, limiting access to customer service for sellers that previously had enhanced access, changing the buyer protection calculation based on past performance, and so on.

Problem Buyers

Yes, difficult customers exist everywhere, but on these marketplaces things are a bit more complicated than they are for most retail venues. Most marketplace customers can't inspect goods before purchasing, yet the range of goods to be found on these marketplace (new, used, top quality, discount import quality, recent, vintage, complete, parted out, etc.) means that customers don't know what to expect from goods purchased in the same way that they do from items at a big box retail store. At the same time, customers' certainty that they're about to get a fabulous deal, the distances that are often involved between buyer and seller, and the fact that buyers can publicly leave negative feedback or poor detailed seller ratings that can sink your business.

Synthesis of the problem worth solving

The conventional eCommerce industry disrupted the way we shop and live, and blockchain is on its path to disrupt eCommerce. The implementation of blockchain technology in eCommerce marketplace will ignite a significant shift by establishing a decentralized economy. In this post, we are going to be extensively covering how blockchain can transform the present ecommerce marketplace.

From the problems listed above, it is definitely obvious that:

Payments Methods needs to get revamped: Blockchain witnessed its first implementation in currencies powered by its technology (like bitcoin, ethereum, and ripple). Today, cryptocurrencies are being utilized as an alternative to traditional currencies. This shift is due to the relative ease of implementation and the fact that they are decentralized. Bitcoin and other cryptocurrencies provide numerous advantages over traditional currencies which benefits the users.

Ecommerce needs to be decentralized: Blockchain isn't regulated by any central authority which basically implies that the buyer and seller only control blockchain operations. Thus, no third party can look over or manipulate your transactions. Blockchain currencies can't be inflated or devalued by any bank or government, as is the case with other currencies. For instance, if the economies of a country were to collapse today, their currencies would terribly suffer which is not the case with bitcoin because geopolitics do not influence its operation.

Users Identity needs to be protected: Cryptocurrencies based on blockchain technology don't reveal the identities of the transacting parties. Still, these transactions are very transparent as centralized ledger stores the details and give visibility to transactions.

Marketplaces needs to be trustless: There is no governing body which controls how a person utilizes his/her bitcoin. Regular payment methods are often imposed with several limits based on the amount and even geographical location. However, this isn't the case with currencies like bitcoin — a Blockchain-based currency gives users absolute freedom to perform transactions without any cap on the spending limit.

Blockchain can offers a better experience: Blockchain-based currencies are incredibly comfortable to use. Unlike traditional currencies, one doesn't need to visit any regulatory authority to create an account. All these can be easily accomplished at the comfort of your home. Additionally, they do not levy any charges to open an account; instead, a virtual currency wallet is absolutely free.

Transactions needs to be faster: Traditional transfers often take long, especially sending money across continents may take up to several days to accomplish. Bitcoin transfers, on the contrary, only takes up a few minutes! Most importantly, they aren't closed at any point in time, and a transaction could be carried out at any point in time, just in an instant.

Fraud needs to be eliminated: Blockchain-based currencies are extremely secured to transact with. Because of peer-to-peer technology, it is tough to hack into the process and conduct a fraud. Thus making it one of the safest modes of transaction.

eCommerce Marketplaces needs to be transparent: With the recent backlash that big retailers have been facing in the wake of charges of lack of transparency — this is one of the serious concerns faced by existing eCommerce platforms. For instance, Amazon was in the news for cutting-off and even disabling a merchant's page without any explanation. Thus, applying blockchain technology in the ecommerce marketplace will establish a decentralized environment where any wrongdoings on the part of the business or merchant can be efficiently monitored. A transparent eCommerce marketplace also facilitates conducting of transactions in a frictionless and efficient manner.

Security can be improved: Blockchain today, can be easily deemed as one of the most secure platforms out there. The Distributed Ledger Technology or DLT which blockchain boasts, offer excellent security for online database platforms that makes it ideal for implementation in eCommerce. Also, there has been almost negligible reporting of security breaches in blockchain-powered networks. Another significant upside blockchain offers for eCommerce businesses is that blockchain based currencies don't exhibit personal identifiable information. Currencies like Bitcoin operate like cash in the sense that they don't require a consumer to expose sensitive data. In fact, the customer authorizes a transfer from his/her own personal "wallet" to that of the recipient. The only

distinguishing piece of data tied to each user's wallet is a randomly generated unique identifier. Since cyber-attacks and data theft have increased tenfold, there is an inevitable risk of losing customers data. Therefore, adopting blockchain is an absolute key to solving these challenges.

Egoras: It is all about Recommerce

Recommerce or reverse commerce refers to the process of selling previously owned, new or used products, mainly electronic devices, clothes, media such as books, through physical or online distribution channels to companies or consumers willing to repair, if necessary, and reuse.

Different Types of Recommerce

Informal Market

Consumers sell used goods directly (person to person) such as: flea markets, garage sales or ad hoc or via Marketplaces such as Amazon and eBay. Hereby some platforms such as eBay may hedge the risk of the payment for the consumer by providing payment tools such as PayPal or just offer the possibility to market the product such as craigslist.

Trade In and Recommerce Services

An increasing amount of transactions occur directly via specialized service companies that purchase used goods, refurbish them if necessary and resell them subsequently. Such platforms often provide initial indications of the final purchase price for the good. Most platforms assist the user during the transaction by offering following services:

- An indication of the final purchase price to the owner of the product sold (often the final price varies as the consumer cannot verify to the full extent all determining factors of the product sold such as the quality of the battery of a smartphone during the process)
- Organizing the logistical return of the product;
- Controlling the product's condition in a specialized workshop;
- Recycling the good if it can't be used anymore.

This kind of resale allows sellers to overcome some marketplaces drawbacks, by providing a means of simplified immediate acquisition, and guaranteed value.

Buy back and Trade in offers by Vendors of new Products

Especially in the electronics sector the purchase and buyback of consumer electronics became very common in recent years. Today all major MNO offer Trade in solutions combined or detached from the purchase of a new phone. Most of these services are offered by 3rd party refurbishing companies specialized in used electronics.

Types of purchased products

Examples of the main assets of companies acquired by recommerce include

Consumer non-durables: disposable razors, jeans, corks, pantyhose, eyeglasses, watches

Cultural goods: books, CDs, DVDs

Jewelry: gold, silver

Technological devices: cellphones, smartphones, tablet computers, TVs, video game consoles, GPS devices, cameras, video cameras

Clothes and unwanted fashion items and accessories: handbags, small goods

Over the counter (OTC) medical supplies, particularly Diabetes testing supplies such as glucose test strips and lancets

Many ecommerce services have introduced recommerce solutions, including distributors, online retailers, and chain retailers

We are proposing an incentivized blockchain-based recommerce/Resale marketplace as a new tool to grow the global commerce industry. Individuals/business no longer need to pass through the strict process of listing items at a cheap rate on the centralized marketplaces like ebay, amazon and others. They only need to search for their items on our decentralized marketplace and sell instantly at premium rate for cash. Whereas individuals are incentivized to buy at premium rate from sellers.

Recommerce companies like Bundli (India), Cashify (India), Recommerce Solutions (France), Gazelle (USA). These companies usually buy used goods at low price and sell refurbished goods to earn profits. Egoras is designed from the scratch to address the major barriers to adoption of a trustless recommerce marketplace economy. Our thesis is

that the same techniques used to grow major marketplace can be used to bootstrap a successful cryptocurrency. Economic incentives enabled by cryptocurrency can dramatically facilitate the competition within the marketplace were the end users benefits by getting at a premium offers for their used items. It is the synergy between cryptocurrency and the resale/recommerce marketplace that we believe will give Egoras a powerful advantage in the market.

Egoras algothrim is designed to display users that buys items on its marketplace higher and also gives a fair compensation to users that buy at a premium rate. Existing marketplace favors users that pay for higher ranking than the users with better.

Egoras Recommerce Marketplace Vs Online classifieds

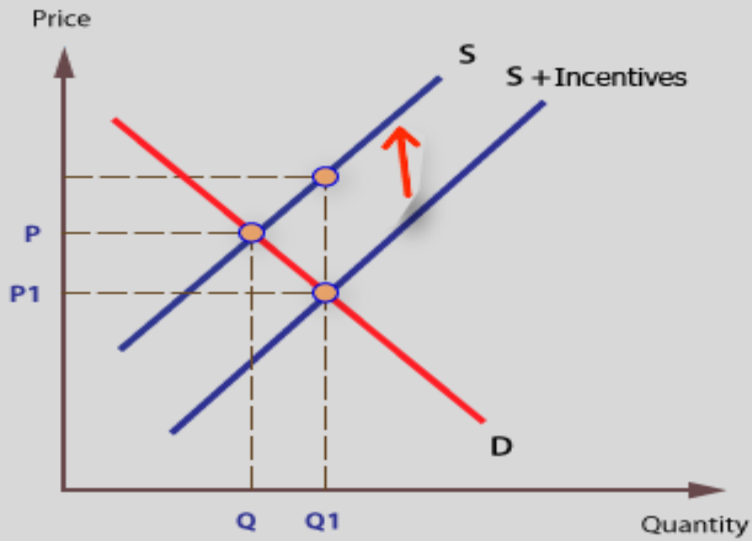
Egoras Recommerce model has an upper hand over online classifieds (like Olx, Quikr,jiji eBay, etc.) as our marketplace incentives buyers to actually buy the products of the users at premium price and not just provide a platform to sell.

Online Classifieds don't guarantee the sale of the products while Egoras Reverse commerce has a network of buyer and guarantee the sale of the products around that predetermined price.

Introducing Smart incentives

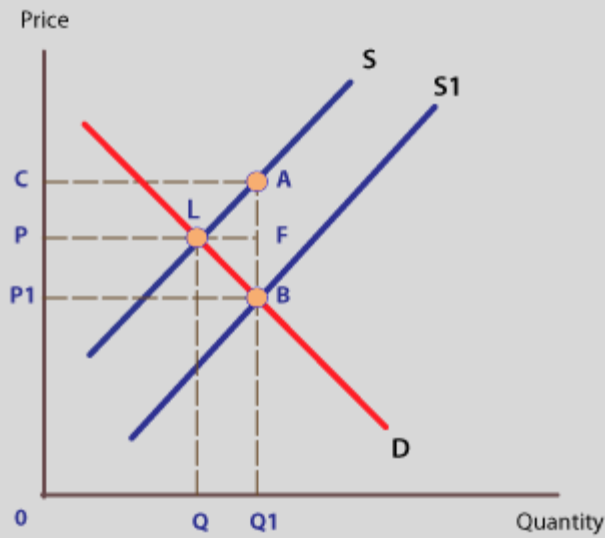
Smart incentives are amount of tokens release directly to users by the egoras network to encourage purchase on the network. A unit incentive is a specific amount of egoras coin per unit purchase which is given to the user. The impact of the incentive is to increase prices for sellers and to also increase the price received by buyers. The benefit of the incentive is shared by the sellers and buyers in a proportion that depends upon the relative slopes of the demand and supply functions.

The effect of a specific per unit of an incentive is to shift the supply curve vertically upwards by the amount of the incentive. In this case the new supply curve will be parallel to the original. Depending on elasticity of demand, the effect is to increase price and increase demand.

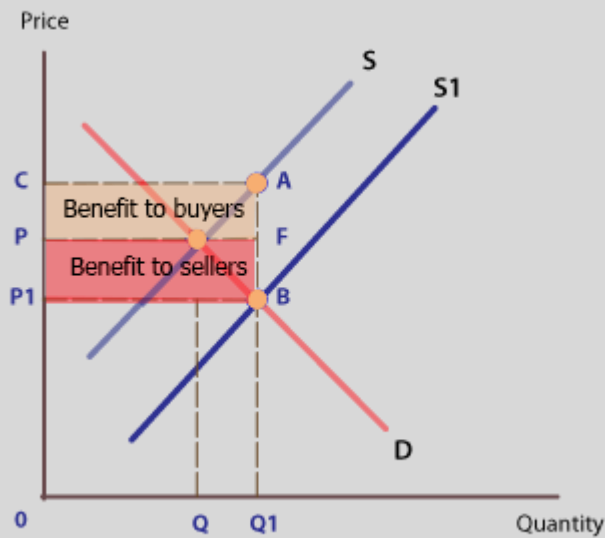


The incidence of a Smart Incentive

The economic incidence of the smart incentive indicates who is made better off by the incentives. In contrast, the legal incidence indicates who, by law the incentives is intended to help. In the diagram below, the incentive per unit is $A - B$, and the new quantity consumed is $Q1$.



However, the price the consumer pays does not fall by the full amount of the incentive – instead it falls from P_1 to P . Hence, although the intention of the incentive may be to increase the price to the sellers by the full amount of the incentive, the buyer gets some of the benefit in terms of extra revenue that they can keep. The gain to the seller is $P_1 - P$ per unit, and the whole gain to the seller is the area $PFBP_1$.



The gain to the buyer is $C - P$ per unit and the total gain to the buyer is $CAFP$. The overall cost of the incentives to Egoras network is the area, $CABP1$.

How Smart Incentives Works

Smart incentive is an Ethereum blockchain based smart contract ensuring creation of value (tokens) whenever there is a purchase on Egoras marketplace. The underwriter of this smart incentive is the Egoras marketplace, which will provide the proof of purchase verification which can also be verified on Ethereum blockchain. Smart incentives are distributed to users according to the value created on the marketplace. Users can also redeem their smart incentives from Egoras vault to increase their buying power. Smart incentives is also the mechanism used to introduce Egoras coin into the network; buyers are paid any network fees as well as a "subsidy" of newly created coins.

This both serves the purpose of disseminating new coins in a decentralized manner as well as motivating users to create more value for the network. This proof of purchase is verified by other users each time a purchase is done on the marketplace

What is Proof of Purchase?

A proof of purchase is a piece of data which is created after every transaction which enables the user to verify the authenticity of the purchase. Egoras smart incentive contract creates a new coin after the proof of purchase has been created.

Egoras has two unique properties when compared to other cryptocurrencies. First, it has a pool of tokens (called the "reward pools") dedicated to incentivizing buyers for their purchase on the marketplace. Second, it has a verification system that requires marketplace users to determine the authenticity of every purchase on the network. When coupled together, these two unique properties are referred to as Proof of Purchase. The Proof of Purchase works a lot like the Proof of Work algorithm where tokens are distributed to the participants based on the amount of work they have done.

Egoras Coin is a liquid cryptocurrency that can be bought and sold on exchanges, as well as transferred to other parties as a form of payment. It is the backbone of the Egoras network. Note that smart incentives issued on Egoras are in the form of Egoras Coin.

Egoras Dollars is the vehicle implemented to protect the system's stability. It is similar to convertible notes in the real world. EUSD allows the holder to redeem to the backing token (Egoras Coin) .One EUSD can be traded for roughly \$1 worth of Egoras Coin.

A stable cryptocurrency

Despite many potential advantages over regular (or “fiat”) currencies, people have been slow to adopt cryptocurrency as a medium of exchange. We believe that this on the high size due to the price volatility of today's most popular cryptocurrencies. Users may hesitate to use a cryptocurrency for purchases or to pay back friends if the price fluctuates each day. In the same sense, businesses that may accept cryptocurrency will convert payments immediately to fiat so that their cost base is predictable. For a currency to be a useful medium of exchange, it must be able to maintain a stable value.

The Challenge for Stable Cryptocurrencies

Stable coins are new types of cryptocurrency that often have their value pegged to another asset. These coins can be pegged to fiat currencies such as the United States dollar, other cryptocurrencies, precious metals or a combination of the three. Fiat seems to be the most popular option in the marketplace right now, meaning one unit of a stable coin equals \$1.

Pegged exchange rates: The pros and cons

Countries prefer a fixed exchange rate regime for the purposes of export and trade. By controlling its domestic currency a country can – and will more often than not – keep its exchange rate low. This helps to support the competitiveness of its goods as they are sold abroad. For example, let's assume a euro (EUR)/Vietnamese dong (VND) exchange rate. Given that the euro is much stronger than the Vietnamese currency, a T-shirt can cost a company five times more to manufacture in a European Union country, compared to Vietnam. But the real advantage is seen in trade relationships between countries with low costs of production (like Thailand and Vietnam) and economies with stronger comparative currencies (the United States and the European Union). When Chinese and Vietnamese manufacturers translate their earnings back to their respective countries, there is an even greater amount of profit that is made through the exchange rate. So, keeping the exchange rate low ensures a domestic product's competitiveness abroad and profitability at home.

A common element with all fixed or pegged foreign exchange regimes is the need to maintain the fixed exchange rate. This requires large amounts of reserves, as the country's government or central bank is constantly buying or selling the domestic currency. China is a perfect example. Before repealing the fixed rate scheme in 2010, Chinese foreign exchange reserves grew significantly each year in order to maintain the U.S. dollar peg rate. The pace of growth in reserves was so rapid, and it took China only a couple of years to overshadow Japan's foreign exchange reserves. As of January 2011, it was announced that Beijing owned \$2.8 trillion in reserves – more than double that of Japan at the time. (To learn more, check out "How do Central Banks acquire Currency Reserves and how much are they required to hold?")

The problem with huge currency reserves is that the massive amount of funds or capital that is being created can create unwanted economic side effects – namely higher inflation. The more currency reserves there are, the bigger the monetary supply – causing prices to rise. Rising prices can cause havoc for countries that are seeking to keep things stable. As of December 2010, China's consumer price inflation had moved to around 5%.

Conclusion: Pegging one currency to another, in contrast, is much simpler and easier for cryptocurrency issuers to do manually or automate in smart contracts.

Egoras Tokens

The Egoras Network interacts with three kinds of tokens:

1. **The Egoras Dollar**—a stable cryptocurrency that can be held and spent, the way we use US dollars and other stable fiat money.
2. **The Egoras Coin:** a cryptocurrency used to facilitate the stability of the Egoras Dollar (EUSD) and it is created by buyers on Egoras recommerce marketplace.

Types of Stable coins

Stable coins are simply cryptocurrencies with stable value, sharing all the appealing characteristics of other cryptocurrencies but without the volatility. They are often, but not always, pegged to a fiat currency like the US dollar. Broadly speaking, stable value cryptocurrencies can be grouped into three categories: fiat-collateralized, crypto-collateralized, and seigniorage style.

Fiat-collateralized Stable coins

Fiat-collateralized stable coins act as IOU tokens. These tokens are created when fiat currency is sent to a centralized party and destroyed when the centralized party returns

that fiat to the token holder. Arbitrageurs play an important role in fiat-collateralized systems, purchasing and redeeming tokens when the market price is less than the value of the IOU, and creating and selling tokens when the market price is greater than the value of the IOU.

This mechanism has the advantage of being simple and easy to understand. Theoretically, fiat-collateralized tokens will remain perfectly stable, as they can be easily redeemed for fiat. In practice, however, the redemption process can be slow and expensive. Furthermore, these tokens rely on a trusted centralized third party to hold the collateral, and regulation and regular audits are necessary in order to build and maintain that trust.

Crypto-collateralized Stable coins

Crypto-collateralized stable coins, on the other hand, are backed by cryptocurrencies rather than fiat. This is often done using loan instruments, where users can borrow stable coins by locking up other cryptocurrency holdings (e.g. ether) as collateral.

These systems are more decentralized than the fiat-collateralized model, as the collateral is held by a smart contract rather than an off chain entity. The liquidation process occurs entirely on chain, resulting in faster redemption of the stable coin for the underlying collateral. Furthermore, crypto-collateralized stable coins are fully transparent; any user can audit the code or query the amount of collateral being held. Unfortunately, this approach can come at the expense of complexity and requires over collateralization to absorb price fluctuations in the collateral.

Seigniorage-style Stable coins

Finally, seigniorage-style stable coins algorithmically expand or contract the supply of the stable token in order to match demand. These systems typically introduce one or more non-stable, or seigniorage, assets that may fluctuate in value in response to changes in demand for the stable coin. This will shift volatility risk from the coin holders to the complementary asset holders, depending on the activity of the market.

These types of systems are arguably the most decentralized; as they don't rely on any other crypto or fiat currency in order to maintain their stability. However they can be complex to build and analyze, and may be particularly vulnerable to a decline in market confidence around the seigniorage token or the cryptocurrency space as a whole.

Egoras Approach

The Egoras price stability protocol can be thought of as a hybrid crypto-collateralization/seigniorage-style model, designed in a way that we believe offers the best of all three approaches. The protocol supports an ecosystem of stable currencies, the first of which, the Egoras Dollar, will be pegged to the US Dollar.

The native asset of the Egoras platform is Egoras Coin, which is used to expand and contract the supply of Egoras Dollars in response to changes in demand, thus serving as the seigniorage-style token. The protocol holds Egoras Coin in a reserve. In the initial implementation of the protocol, maintaining this asset allocation will be done in a transparent, systematic, but more manual fashion.

The reserve ratio, also called the collateralization ratio, represents the size of the reserve with respect to the total value of all outstanding stable coins. Maintaining a high reserve ratio is critical to the stability of the system. The protocol has two mechanisms to boost the reserve ratio in times of need. First, a network fee can be automatically placed on the marketplace for sellers. This fee goes directly to the reserve, and encourages the long term holding of Egoras Coin. Second, a portion of the monthly incentives can be diverted to bolster the reserve.

Finally, the protocol levies a stability fee on creation of Egoras Dollars. This encourages circulation, a desirable outcome for a medium of exchange currency, and contributes to the overall stability of the system.

Expansions and Contractions

The protocol uses the vault to adjust the supply of Egoras Dollars in response to changes in demand. It relies on a number of oracles external to the blockchain to provide feeds of the Egoras coin price in US Dollars. To maintain the peg, the protocol allows users to create new Egoras Dollars by sending \$1 worth of Egoras coin to the vault, or to destroy Egoras Dollars by redeeming \$1 worth of Egoras Coin from the vault. This is similar to how fiat-collateralized coins work, except that the trusted third party (e.g. Tether or Circle) is replaced by a decentralized protocol.

When demand for the Egoras Dollar rises and the market price is above the \$1 peg, arbitrageurs can profit by purchasing \$1 worth of Egoras Coin, exchanging it with the protocol for one Egoras Dollar, and selling that Egoras Dollar for the market price, pocketing the difference. Similarly, when demand for the Egoras Dollar falls and the market price is below the peg, arbitrageurs can profit by purchasing a Egoras Dollar for

the market price, exchanging it with the protocol for \$1 worth of Egoras coin, and selling the Egoras coin to the market. These actions drive the market price of the Egoras Dollar back towards \$1.

Additional mechanisms are needed to prevent the reserve from becoming overly depleted when the price of Egoras Coin supplied by the oracles does not match the market price. This can happen during times of high volatility or when the oracle system is compromised. Without these mechanisms, the protocol may offer to sell Egoras Coin at a large discount, or purchase it at a large premium, depleting the vault and weakening the protocol's ability to absorb future contractions in demand for Egoras Dollars.

Global Commerce

Despite the level of globalization today, it remains difficult to transact across borders. A widely used stable cryptocurrency will remove these barriers and allow anyone to transact with anyone else, anytime, anywhere. It will also allow businesses to scale internationally without having to build new infrastructure to interface with local banking institutions in the region.