NotASecurity Official White Paper

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Abstract. *NotASecurity (NOT) is an ERC20 token designed to explore the boundaries of what is, and is not, considered a financial security by the U.S. Securities and Exchange Commission. Given the SEC's operating definition of a security -- an "investment in a common enterprise with a reasonable expectation of profits derived from the entrepreneurial or managerial efforts of others" -- we believe that NOT is not a financial security, despite providing a flow of returns to certain investors. Rather, NOT is a utility token focused on wealth redistribution, rather than wealth creation.*

0. Background

The most notable feature of blockchain-based assets is that their mechanics are codified and enforced by a decentralized network. As a result, malicious third parties cannot tamper with their behavior, and governments (in many cases) cannot alter their behavior with legislation. Despite this, blockchain-based assets are not immune to laws and regulations. Cryptocurrencies and utility tokens often represent and interact with off-chain entities, such as corporations and individual parties, which offer a clear target for regulatory action. One of the key questions relating to new blockchain-based assets is whether they qualify as financial securities, and are subject to requirements around sales, disclosure, and investor accreditation.

The answer to this question, as of early 2018, is not clear. While the U.S. Securities and Exchange Commission (SEC) has previously considered Bitcoin a commodity[1], rather than a security, the SEC Chairman has indicated that many ICOs meet the definition of a security[2]. Ethereum falls into a grey area: The terms of it's ICO might qualify it as a security, and it was rumored that the SEC would classify it as such. However, the SEC's Director of Corporate Finance indicated that this might not be the case[3]. Similarly, Ripple deals with SEC rumors of its own, along with a class action lawsuit[4].

In this context, the NotASecurity (NOT) token was designed to explore the boundaries of what might qualify as a financial security, and touch on the broader question of how assets backed by decentralized platforms, such as the Ethereum network, fit into broader legal frameworks.

1. Token Dynamics

The NOT token is defined by the NotASecurity ERC20 contract[5]. Aside from the standard functionality required to conform to the standard ERC20 interface, NOT implements a `buy` function, which executes most of the contract's business logic:

- Ethereum addresses may purchase NOT at a constant one-to-one exchange rate with ETH. This is the only way that new NOT is

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1 https://coincenter.org/link/sec-chairman-clayton-bitcoin-is-not-a-security

2 https://www.cnbc.com/2018/06/06/sec-chairman-clayton-says-agency-wont-change-definition-of-a-security.html

3 https://www.sec.gov/news/speech/speech-hinman-061418

4 https://cointelegraph.com/news/class-action-lawsuit-against-ripple-alleges-sale-of-unregistered-securities

5 All references to "the contract" refer specifically to the NOT smart contract deployed to the Ethereum blockchain -- it is not to be confused with an "investment" contract.

minted: Buying NOT increases the contract's `totalSupply` by the corresponding amount.

- The contract keeps an internal list of the top 10 token holders (the benefactors). When new NOT is purchased, the proceeds of the sale are distributed to the tokenholders in proportion to their holdings.
- After the distribution is made, the list is rebalanced to (potentially) include the most recent token buyer.
- The Ethereum address that launches the contract is given a small amount of NOT as compensation for the gas cost of publishing the contract. Aside from this, this address has no special roles or privileges relating to the contract.

In this example, assume 10 token holders have the following NOT balances:

Token Holder	**Balance (NOT)**
Alice	30
Bob	20
Charlie	15
Diane	10
Eve	5
Fred	5
Greg	5
Harry	5
Ian	4
Julia	1

Then, Kelly purchases 200 NOT, which leads to the following distributions of Ethereum:

Recipient	**Distribution (ETH)**
Alice	60
Bob	40
Charlie	30
Diane	20
Eve	10
Fred	10
Greg	10
Harry	10
Ian	8
Julia	2

The balances then become:

Token Holder	**Balance (NOT)**
Kelly	200
Alice	30
Bob	20
Charlie	15
Diane	10
Eve	5
Fred	5
Greg	5
Harry	5
Ian	4
Julia	1

However, Julia will not be a benefactor to any future transactions, unless she purchases more NOT.

2. Token Holder Incentives

The surface motivation for buying NOT is to buy tokens sooner than others, in an attempt to receive token sale distributions. However, the expected value of buying NOT is, roughly, slightly below zero, and the official NotASecurity website claims as much. All distributions made to the benefactors are coming from newer token buyers, and all benefactors have presumably purchased NOT with ETH to begin with. Inevitably, most token holders will not recoup the ETH outlay of their initial purchase. After factoring the cost of gas to execute these transactions, the net combined profit of all token holders will be negative.

While benefactors might initially be inclined to purchase the overwhelming majority of tokens in an attempt to reap a higher portion of the distributions, they are incentivized not to for two reasons: First, in holding the vast majority of tokens, they disincentivize future token holders from purchasing tokens in the first place. Second, in purchasing a large quantity of tokens, they would essentially be buying out the other benefactors, ensuring that they see a profitable flow of Ethereum.

3. Not A Financial Security

The SEC has previously defined a financial security as "an investment of money in a *common enterprise* with a *reasonable expectation of profits* to be derived from the entrepreneurial or managerial *efforts of others*."[6] This definition, in turn, is based on the Howey Test[7], which specifies that a transaction represents a financial contract if someone "invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party." There are three key criteria described here that qualify something as a financial security: common enterprise, reasonable expectation of profits, and (most importantly), said profits being based on the efforts of a third party.

Common Enterprise

NOT is not a common enterprise: One token holder's gain is another token holder's loss. The group of benefactors might, in some respects, be considered a common enterprise, in that they all profit on a new token sale. However, the dynamic nature of the group creates asymmetric incentives for the benefactors. In particular, certain transactions might be detrimental to the token holder with the lowest balance if it pushes them out of the benefactor group without sufficient reward.

Reasonable Expectation of Profits

As stated above, the expected profit of buying NOT is slightly less than zero. Additionally, the official NotASecurity website makes no claims of profits. One can certainly expect profits from buying NOT, but these expectations are not reasonable.

Entrepreneurial/Managerial Efforts of a Third Party

After the initial publication of the contract, the contract publisher has no bearing on the intrinsic value of the token. The contract's logic is set, and all future value is derived solely from the coin's publicization and pool of future token buyers. While the contract publisher can certainly add value to the token through publicization, the publisher is not in a privileged position to do so. While token holders can, in some circumstances, derive profits from the promotional efforts of others,

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6 https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11

7 https://www.investopedia.com/terms/h/howey-test.asp

these profits are not *dependent* on any third party.

Moreover, in the case of the original NOT contract, the contract author makes no claims that funds will be used to promote NotASecurity.

Finally, as the list of token holders grows beyond 10, the contract publisher will cease to have any relationship to the contract.

4. Not A Pyramid Scheme

NOT is also not a pyramid scheme, given the definition given by fbi.gov[8] It does not meet this definition, primarily due to the fact that no fraud is taking place. The contract's source code is open source, and the contract author has gone to extensive lengths to describe the mechanics of the contract. That being said, it is technically possible for a third party to market the contract as a pyramid scheme. In this case, the burden of responsibility would fall on that third party, as the contract now exists as a neutral, decentralized entity.

It is also worth emphasizing that the contract does not have an owner that acts as the tip of the pyramid -- it just has a rotating list of benefactors.

[8] More specifically, pyramid schemes—also referred to as "franchise fraud" or "chain referral schemes"—are marketing and investment frauds in which an individual is offered a distributorship or franchise to market a particular product. The real profit is earned, not by the sale of the product, but by the sale of new distributorships. Emphasis on selling franchises rather than the product eventually leads to a point where the supply of potential investors is exhausted and the pyramid collapses. At the heart of each pyramid scheme is typically a representation that new participants can recoup their original investments by inducing two or more prospects to make the same investment. Promoters fail to tell prospective participants that this is mathematically impossible for everyone to do, since some participants drop out, while others recoup their original investments and then drop out. -- https://www.fbi.gov/scams-and-safety/common-fraud-schemes/pyramid-schemes

5. Conclusion

Despite the potential of providing a positive flow of Ethereum to some token holders, we believe that NotASecurity does not conform to the definition of a financial security given by the SEC. NOT does not represent a common enterprise, token holders have no reasonable expectation of profits, and the token's value does not depend on the entrepreneurial or managerial efforts of any third party.