

WHITE PAPER

2019



NAAV

connect the market

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CHAPTER 1

1.1 THE COMPANY

WHO

The New Asset Allocation Vehicle NAAV

NAAV Ltd (NAAV) is a Swiss registered company operating in Switzerland. It works in close collaboration with a major Swiss law firm specialized in blockchain technology and asset management/banking law.

WHAT

Connect the market

NAAV is an innovative platform acting as a link between the blockchain and the asset management industry. It allows people to invest in mutual funds without the need for a bank account; therefore providing investors with direct access to portfolio managers.

Switzerland has developed expertise in the private banking and asset management industry over many years. It has also become, more recently, a center for STOs and blockchain projects. NAAV combines expertise in these two areas in order to provide people with **wealth management services at a lower cost.**

WHY

NAAV wants to change the financial status quo

NAAV wants to give everyone an equal chance to grow their savings at a fair and transparent cost. By reducing intermediaries and increasing efficiencies, NAAV wants to provide access, at a reduced cost, to asset management expertise to everyone, from smaller investors to large institutionals.



NAAV

connect the market

NAAV is creating a platform allowing investors direct access to the mutual funds industry.



HOW

NAAV responsibilities include:

- **Fund tokenization:** through IT development and licensing, NAAV will be able to tokenize fund shares and offer them to the public. This implies transferring the custody from banks directly to the investor, allowing greater control over the funds and custody at no cost. Moreover, smart contracts have been developed in order to fully automatize the fund subscriptions and redemptions process, making access to mutual funds more efficient and less expensive.
- **Compliance:** through its automated compliance tool, NAAV will make certain that investors' funds are legitimate and do not breach any AML rules (including FACTA, AEOI, anti-sanctions rules, etc.). High compliance standards will be applied, fully in line with Swiss regulation.
- **Investment suitability:** through its automated suitability analysis tool, NAAV will be able to monitor whether investments made through the platform match the investor risk profile, when legally required.
- **Monitoring:** NAAV online interface will allow people to monitor all their investments done through the platform, contact portfolio managers directly, generate statements and get regular updates on funds' performance.

Automation will allow NAAV to provide access to mutual funds (and other financial products at a later stage) at a lower price, further facilitating fund access to smaller investors. **Moreover, crypto holders will no longer need to convert their crypto holdings themselves nor open a bank account in order to access the financial industry.** The blockchain and the smart contracts will enable the automation of processes that are done manually today.

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NAAV offers the first platform for tokenized mutual funds.

Blockchain as a game changer

In its later report¹, the Swiss government describes the potential uses of blockchain and distributed ledger technology (DLT) in wealth management.

- **Publication of information:** Like other financial intermediaries, asset managers must also publish information (e.g. regulatory reporting, traded prices, etc.). DLT could enable or at least simplify the storage of data as well as the paperless transmission thereof appropriate to the addressee.
- **More efficient processes:** Smart contracts might be used to automate the onboarding of clients, document management, dividend transfer, etc.
- **Tokenization of fund units:** If fund units were structured in the form of tokens, payments into and out of the fund could be simplified and made directly via DLT. This would make it easier for funds to appeal directly to retail clients and thus make them less dependent on intermediaries. Tokens would also be tradable on the secondary market.
- **DLT-based asset management:** A combination of the examples mentioned above could be used to represent a completely DLT-based asset management business model. However, this would necessitate only DLT-based assets to be invested. Should the tokenization of assets continue to increase, a wide range of investment opportunities might arise in the future.

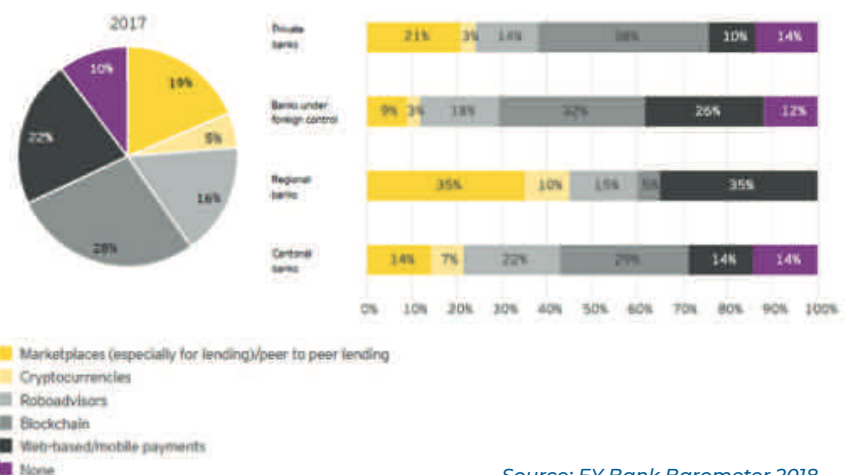
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We want to create an innovative platform allowing a new time- and cost-efficient way to invest.

Disruptive technologies

"Which of the following evolving technologies/businesses represent a potential threat for well-established financial institutions?"

According to Ernst & Young Bank Barometer 2018, [...] the technology underlying blockchain brings with it a lot of desirable attributes such as data integrity and accountability, which in turn pave the way for new business models which can operate without financial intermediaries such as stock markets and, in some cases, even banks."



Source: EY Bank Barometer 2018

¹ Federal Council report, Legal framework for distributed ledger technology and blockchain in Switzerland, An overview with a focus on the financial sector (14 December 2018)

1.2 FOR WHO

Who will benefit from this solution?

- Investors who want to avoid custody and transactional fees
- Smaller investors who don't have access to fund managers
- Companies who are looking for cash management solutions
- Companies who hold ETHs and want to have them managed
- People over the world² with limited access to banks and/or fund managers

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According to the Swiss Bankers Association (Banking barometer 2017), investment funds managed by banks in Switzerland in 2016 amounted to CHF 1'920 billion.

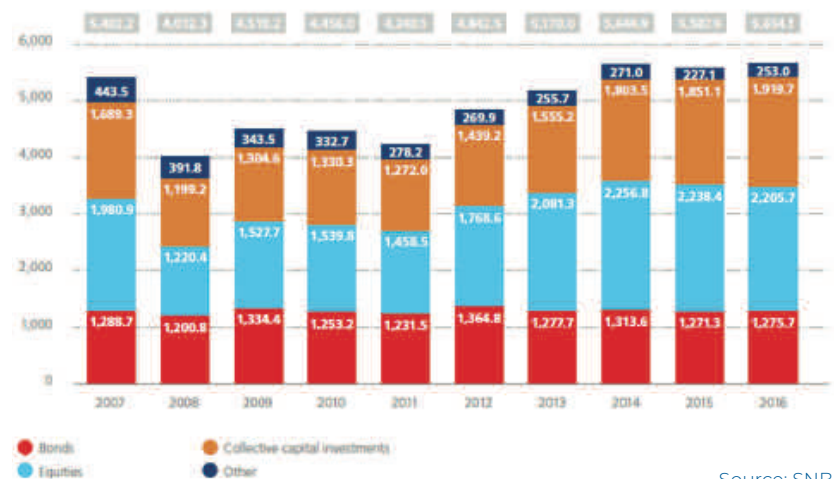
1.3 THE FUND INDUSTRY

NAAV is a platform connecting the investor to the investment funds industry directly.

"Rising demand for collective capital investments: accounting for a 34% share, collective capital investments, consisting primarily of investment funds, were the second-largest securities category. They increased by 3. 7% to CHF 1'920 billion in 2016. "

(Swiss Bankers Association, Barometer 2017)

Securities holdings in customer custody accounts by type in CHF bn



²Except some countries where the legislation does not authorize such set-up. Please check on our website for more information.

The parties involved in a fund

1. **The fund manager** takes investment decisions for the fund according to his predefined mandate and strategy. This mandate can be found in the official prospectus.
2. **The bank** acts as a custodian for the securities and cash on behalf of the fund. It will execute the trades transmitted by the fund manager. The bank also verifies that the management mandate is followed strictly.
3. **The fund directors** have, among others, the authority to select the fund manager and the custodian bank. They are also responsible for the fund towards the investors and the regulator.

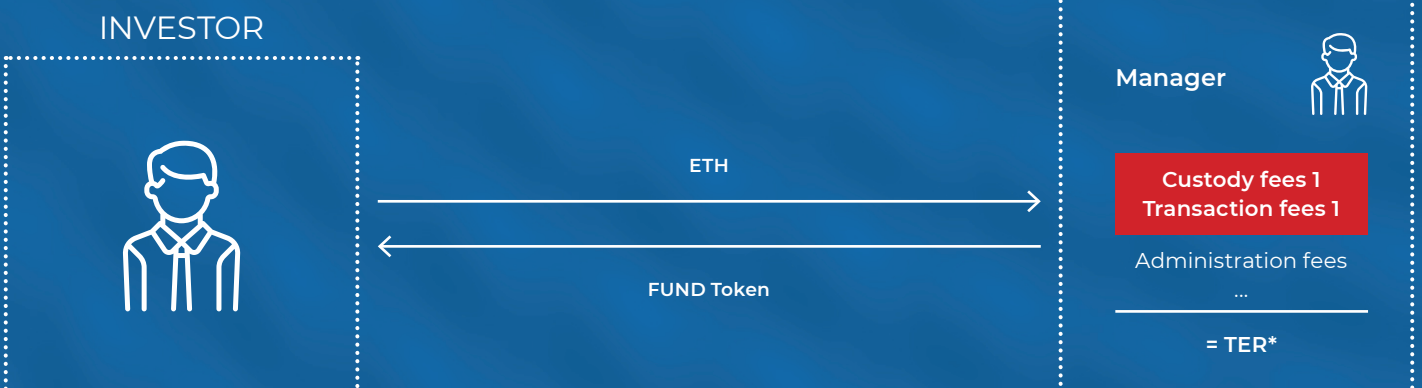
TRADITIONAL SET-UP

To get access to a fund, investors need their own bank account, adding another layer to the set-up:



NAAV SET-UP

NAAV is willing to provide a direct access to the investors by removing one intermediary:



*TER: Total Expense Ratio

1.4 THE DOUBLE FEE LAYER PROBLEM

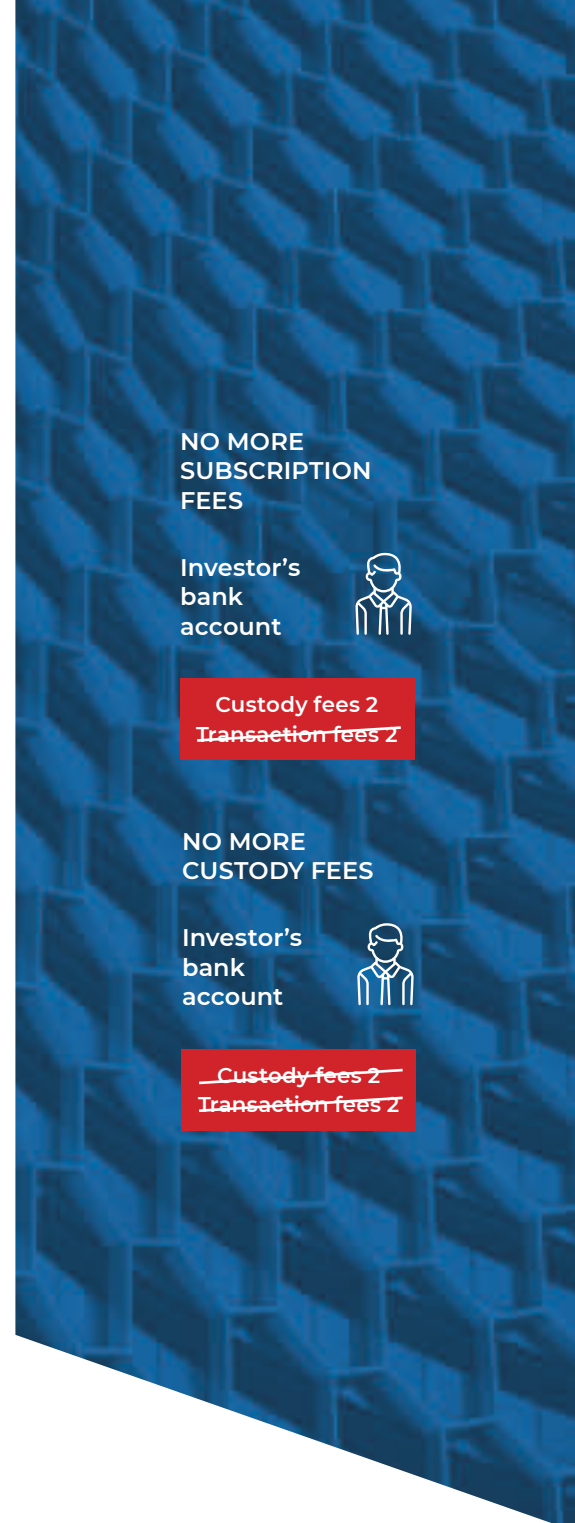
When investing in a fund, the investor faces the double fee layer problem twice.

1. Firstly, when the investor wants to subscribe to the fund or redeem shares;

The investor will ask the banker to subscribe to the fund. The latter will charge a subscription fee for this service (**transaction fees 2**). However, the fund itself is already paying transaction fees when it purchases or sells securities (**transaction fees 1**). Direct subscription through the blockchain will eliminate one layer of fees as there won't be a subscription fee anymore.

2. Secondly, when the investor needs to custodize the fund shares within his/her bank:

The shares of the fund will be deposited on the investor's bank account where custody fees will be charged (**custody fees 2**). However, the fund itself is already paying custody fees to its own custodian for securities purchased (**custody fees 1**). Direct subscription through the blockchain will eliminate the custody fees as the shares will be tokenized and kept in the investor's e-wallet.



The double fee layer problem solved

We believe that in a transparent world, investors should only pay the portfolio manager expertise and the costs associated to the fund management. Moreover, this cost should be clear and transparent. Hence, NAAV offers an efficient way to solve the double fee layer problem and reduce the total cost supported by the investor.

	CURRENT SITUATION		WITH NAAV SOLUTION	
	Transaction fees	Custody fees	Transaction fees	Custody fees
At the fund level	YES	YES	YES	YES
At the investor level	YES	YES	NO	NO

1.5 PROOF OF CONCEPT

NAAV is launching the first mutual fund accessible by cryptocurrencies.

The fund will be distributed by NAAV and accessible via the NAAV platform. This mutual fund, with its shares **tokenized** under the name **FUND**, will allow anyone to participate in the traditional market while limiting downside risk.

This fund will be NAAV's proof of concept. The objective being to expand the fund offering on NAAV platform and to provide more investment possibilities at a later stage. NAAV will accept other mutual funds and asset managers on its **platform** with a full range of strategies. One element, however, will remain for all: fee transparency.

NAAV Ltd (The Company)



NAAV's first tokenized fund



1.6 SUBSCRIPTION PROCESS

Subscription to funds through the NAAV platform will proceed as follows:

1. Investors need to have an ERC-20 wallet and transfer their ETH from this wallet only.
2. The investor needs to register on the NAAV website (www.naav.ch) and complete the due diligence/KYC process. The platform gives investors the possibility to follow the transactions, have information on the funds performances and have a direct communication access to the portfolio managers.
3. Investors transfer their ETHs to the address provided on their private access only, corresponding to the selected fund.
4. The smart contract automatically sends the fund tokens to investors and the operation appears as settled on their private access.

For redemptions, investors send their fund tokens to the address provided on their private portal. Investors will be redeemed in ETH on their original wallet.

1.7 STO vs CS

NAAV security token offering (STO)

Maximum NAAV token supply is set and fixed at 20 million. It gives direct access to the company revenues through its capital structure and is therefore considered as a security token. The token is equivalent to a Non-voting Equity Share (NES) under the Swiss law giving access to potential dividend payments, particularly participation rights (bons de participations/Partizipationsscheine) under article 656a of the Swiss Code of Obligations issued on the basis of a prospectus. As the platform will constantly increase its product offerings and collaborations with different actors of the industry, the potential is significant. The contemplated STO amount is 12 million CHF. Financing above the contemplated STO amount will be used to further develop the company and the fund, increasing the revenues and capitalization of the company.

Initial investors and service providers will be remunerated with tokens not exceeding 20% of the total supply.

FUND coin subscription (CS)

NAAV team has decided to launch an asset allocation fund with a specific risk control to be the first mutual fund available on the platform. This fund will be **tokenized** and distributed to investors under the name FUND. The following chapters provide more information on this first product of the NAAV platform. Subscription is planned to open 12 months after NAAV STO, the estimated time to receive all the authorization and licenses from the regulator and for the fund to be operational.

The tokens

The STO token (NAAV) is the standard token issued by the NAAV Ltd company to raise the necessary money to develop the **platform**. All the tokens issued after the STO (including the first one: FUND³) will represent the different **products** of the platform itself.



³ NAAV's first product as proof of concept – see point 1.5 of the white paper.

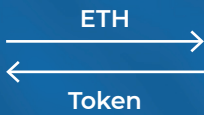
NAAV: PLATFORM FOR FUND MANAGERS AND INVESTORS

INVESTORS

FUND MANAGERS



NAAV
connect the market



EQUITIES



BONDS



MULTI-ASSETS



REAL ESTATE



OTHERS...





FUND

grow your savings the safe way!

GROW YOUR SAVINGS THE SAFE WAY!

Financial markets are unpredictable. One can try to forecast them with complex stochastic models; the truth is that we lie in the unknown. Whatever the complexity of the calculations, we are still unable to definitively answer this simple question: how will the markets perform this year? Drawing on this, NAAV has designed a strategy that allows investors to **increase their wealth** while limiting their losses on the downside. We use blockchain in order to reduce fees and improve transaction efficiency.

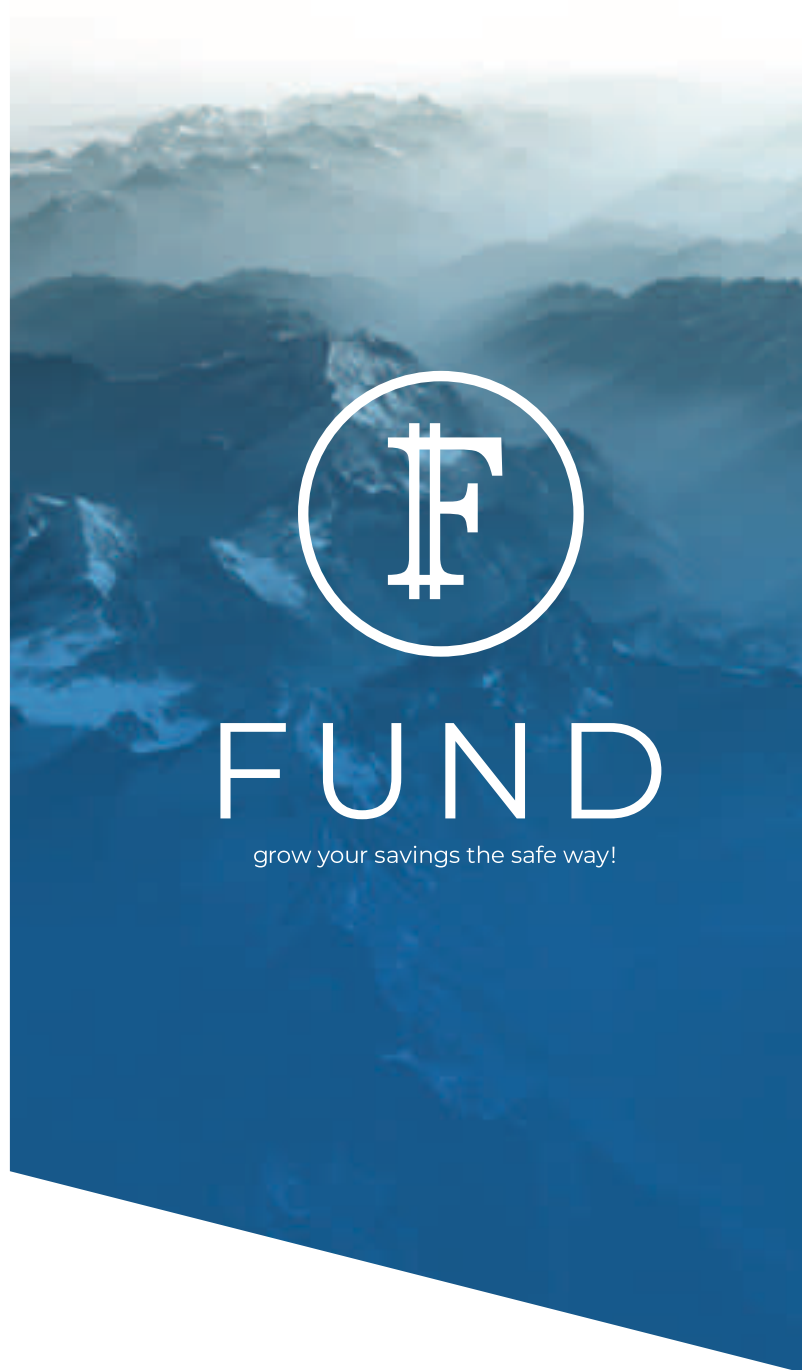
CHAPTER 2

2.1 ASSET ALLOCATION FUND

An asset allocation fund allows investors to have an exposure to equities and bonds (and sometimes other asset classes) through one vehicle, according to their risk profile. The main advantage is to bring a proper diversification to all investors, even smaller ones. Investors buy a portion of the fund called a share. Every share is worth a value called the NAV (Net Asset Value⁴) calculated by the fund custodian⁵.

The standard approach

When dealing with a new client, the starting point for a professional financial adviser is to define the client risk profile and his/her objectives. These will be the key parameters to build a dedicated asset allocation. Practically, the higher the client risk appetite, the higher the equity allocation. The remaining assets being invested mostly in bonds⁶:



RISK PROFILES AND ASSET ALLOCATION



Low risk investor



Medium risk investor



High risk investor

⁴ Not to be mixed up with NAAV (New Asset Allocation Vehicle), the name of the Company.

⁵ To calculate the NAV, the custodian divides the total assets within the fund in USD by the number of shares.

⁶ Other asset classes can be added: commodities, real estate, etc.

This standard approach raises a few problems:

1. The equity allocation is not flexible enough. Hence, a low risk investor will never benefit entirely from a strong bull⁷ market. His exposure will always be around 25%⁸.

We have designed a strategy where the equity allocation may be modified very easily while respecting the risk limit of the fund. Hence, even low risk investors can have significant exposure to the equity markets and expect substantial returns.

2. There is no protection on the downside. A low risk investor will suffer less than a high-risk investor during a sharp market correction⁹ but this is the only consolation he has. Indeed, the loss amount remains unpredictable.

We have designed a strategy where the maximum loss is known in advance. Hence, all investors who can afford a yearly maximum potential loss of 5% can invest in the fund.

3. The bond exposure is considered as the safe part of the portfolio. However, in an increasing rate environment, the bond allocation can be a performance detractor. Moreover, the correlation between bonds and equities is not necessarily negative¹⁰.

We have designed a strategy where we consider the bond exposure as a risky investment and we favor other short-term¹¹ and cash solutions as the safe heaven.

We acknowledge that different risk profiles exist. However, ex post investors all want to have a low risk exposure when markets are bearish (to limit the losses) and a high risk exposure when markets are bullish (to generate the maximum gain). **This dichotomy led us to design a new strategy** accessible to any investor who is looking to grow his/her savings while limiting losses. Rather than asking your risk profile, the only important information we need is whether you can tolerate **a yearly loss of 5%¹² in a worst case scenario.**

⁷ We talk about a bull market when prices are rising. When prices decline, we talk about a bear market.

⁸ Generally, the portfolio manager has a leeway of +/- 10% around his equity allocation target. This means from 15% to 35% for a low risk investor.

⁹ A correction is usually described as a decline of more than 10%.

¹⁰ A negative correlation means that if equities go down, the bonds will go up. This provides a natural protection of the portfolio when markets decline. However, the correlation is sometimes positive, specifically in difficult market conditions.

¹¹ ECP, Reverse-Repo, fiduciary deposits, T-bills, etc.

¹² 5% before fees

2.2 WHY A NEW APPROACH

We have developed an innovative alternative investment strategy for three main reasons:

1. Behavioral finance

- I. **Investors are looking for absolute returns.** The fact that you have beaten the market is not consoling in the event of a negative performance.
- II. **People prefer avoiding losses rather than acquiring an equivalent gain.** Said differently, I am quite happy when I earn +10% but I am devastated when I lose 10%. Scientific studies show that losses are psychologically twice as powerful as gains. This is called loss aversion.
- III. **Catching up effect:** when experiencing a loss on a position, people tend to keep it and hope for a rebound. While it can happen, it is sometimes worthwhile to sell and find a more promising investment.

2. Extreme market conditions

- I. We have experienced more than **40 severe financial crisis** in the last 200 years.
- II. Extreme corrections on a market like the one experienced in 2008 can **take years to recover.**
- III. Some investors **cannot afford** to invest in the market, as their financial capacity does not allow them to go through such corrections.

3. Blockchain

- I. Blockchain allows tokens to be held by an investor **at no cost.**
- II. Tokens can be used to represent **real life assets** like a fund (fund tokenization).
- III. While keeping a certain level of confidentiality, the blockchain allows **full transactional transparency.**

Investors can now transact at **any time**, have full **transparency** on transactions and **reduce costs** drastically without using a central institution. Moreover, the blockchain fund process solves the double fee layer problem and increases efficiency for the investors.

We are looking for positive returns years over years. While we acknowledge that there may be market corrections, our approach is to limit those accidents to -5%.

We want investors to have peace of mind with their savings. Our approach provides performance while eliminating the risk of a decline of more than 5%.

We want to give access to wealth management to everybody, everywhere and at a minimum cost¹³.

¹³ We are committed to a strong and strict compliance process. AML rules, sanctions, AEOI and FATCA will be strictly applied.

2.3 THE STRATEGY

We have designed an asset allocation fund, with a mix of cash, short-term investments, bonds and equities. The particularity of the fund lies in two elements:

1. The equity exposure will be achieved through derivatives (call options¹⁴). This will guarantee a maximum exposure to the equity market while limiting the potential loss to 5% of the fund.
2. The bond allocation ranges from zero to 40% with short term maturities mainly; the goal being to increase the yield compared to only short term investment without increasing portfolio risk by having a too long duration¹⁵.

How can FUND participate in a bull equity market through derivatives?

Derivatives allow investors to have exposure to an underlying stock or index¹⁶. By choosing the right instrument with the right parameters, we can fully replicate an equity allocation. The portfolio manager will mainly use call options on indexes with specific strikes and maturities to replicate the equity allocation. The choice of the options and their parameters is the key in this process and this is where the expertise of the portfolio manager lies.

How can FUND guarantee a maximum loss in the event of a market crash?

The option payout brings investors an asymmetric exposure. The maximum loss is equivalent to the premium¹⁷ paid for the option while the gain will be equivalent to the performance of the underlying less the premium paid.

How does it work?

This maximal loss security, like insurance, has a cost. We intend to reduce this cost to a minimum and spread it as much as possible over the payout curve so that the portfolio constructed through derivatives follows the equity market performance as closely as possible. We will choose the options parameters so that the tracking error¹⁸ is lower than 0.3%. Hence, if the market is up 5%, the replicated strategy should generate at least 4.7%.

¹⁴ A call option gives the right but not the obligation to the investor to purchase a predefined underlying, at a predefined price (called the strike), at a predefined time (called the maturity). The underlying assets will be mainly equities indexes. The price paid for the option is called premium.

¹⁵ Duration can be expressed as the bond sensitivity to interest rates. A low duration implies a low impact when interest rates move.

¹⁶ Examples of indexes are S&P500, Euro Stoxx 50, SMI, etc.

¹⁷ The premium is the price paid to purchase an option.

¹⁸ Tracking error is the divergence between the price behavior of the option strategy and the price behavior of the index.

Fees: simple and transparent

The current bank and mutual fund industry is sometimes accused of being opaque when it comes to fees and charges. We want the fee structure to be simple and transparent. This means that one number will tell you your total charge: **the TER (total expense ratio)**.

For the fund to run, the primary expenses are:

- Portfolio manager and the fund custodian fees
- Compliance, legal and audit costs
- Administration and operational costs

When analyzing a fund fee schedule, the investor should focus on the TER as it is this number which correctly reflects the costs supported by the investor. Unfortunately, too many investors only focus on the management fees.

FUND will have a TER equal to 1.2%. Management fees will be adjusted yearly so that the TER never exceeds 1.2%.

Management fees = 1.2% - custodian fees - transaction fees – etc.

This new tariff approach also allows:

- Full transparency and simplicity on the charges that are debited directly within the fund.
- The portfolio manager to be aligned with the investor in term of price control and fee awareness as his/her remuneration will be higher if he/she manages to obtain lower operational fees.

NAAV is committed to improving fee transparency in the industry. For that end, all asset managers using NAAV platform will be required to meet our rigorous standards.

For further details on the fund, please refer to the official fund prospectus.

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The management fees will be adjusted yearly so that the TER never exceeds 1.2%.

2.4 THE FUND TOKEN

NAAV is in charge of the investors' onboarding (compliance and suitability) and of the FUND token distribution. One FUND token is equivalent to one share of the fund. At any time, investors will be able to check that the number of fund shares is equal to the number of FUND tokens¹⁹. The FUND token price will start at 100 USD, the lowest investable amount, and will follow the performance of the fund through the daily NAV²⁰ calculated by the custodian. This information will be published on our website. FUND token is therefore an asset backed token.

FUND tokens can be bought or sold directly from the NAAV platform and on token exchanges at a later stage. FUND tokens cannot be mined. They will be generated automatically by a smart contract each time the fund receives a subscription in crypto currency. On the other side, FUND tokens will be revoked each time the fund receives a redemption order. Hence, new FUND tokens will neither affect previous investors (no dilution), nor the price of the token.

FUND token market price vs official price

The following arbitrage strategy guarantees that the token, even if traded on exchanges, will follow the official NAV closely:

- If the token price is trading higher than the official NAV, one can purchase new tokens directly from the NAAV platform and sell them on the exchanges with an immediate profit.
- If the token price is trading lower than the official NAV, one can buy the token from the exchanges and sell it on NAAV platform with an immediate profit.

Solving the double fee layer problem of the fund industry²¹

FUND token replaces a share of the fund. This directly solves the double fee layer problem:

1. There is no custody fee for the investor as FUND tokens can be held in an ERC-20 wallet at no cost.
2. The transaction costs to invest in the fund are limited to the cost to transfer ETH.



This also implies that the investor maintains responsibility for the custody of his/her wallet. Therefore, he/she has to make sure neither to lose the private key nor to make it accessible to anyone.

¹⁹ These numbers will be externally audited on a regular basis.

²⁰ NAV stands for Net Asset Value. It was a source of inspiration for the NAAV Ltd company name.

²¹ And the private banking industry as they are often holding the fund shares on behalf of the investors.



2.5 FUND COIN SUBSCRIPTION

The objective of the fund is to reach **100 million USD within the first year.**

Although there is an exchange of crypto currency against the FUND token, we use the term "coin subscription" (CS) instead of STO. In a standard STO, the funds are mainly used to develop a project and for operational purposes (like the NAAV token).

With FUND coin subscription, the investor buys an asset which has been tokenized. In our project, the purchased asset is a share in the fund. Therefore, the investors are not exposed to the company Profits&Losses but only to the fund strategy risk with a maximum loss of 5%. Moreover, the investor can:

- Follow the fund performance and investment decisions from the Portfolio Manager on a regular basis.
- Contact the fund manager directly to be updated on the market/performance.
- Increase or decrease his/her participation at any time at the current price.

The fund is categorized as an open-ended fund. This means that the size may increase over time and that we will accept new investors. However, to maintain the efficiency of the strategy, we will limit the total assets under management of the fund to 500 million USD at a first stage.

Who will benefit from this strategy?

- Investors who want to grow their savings while limiting their risk.
- Investors who are looking for a diversified and safe exposure to financial markets.
- Companies and individuals who hold ETHs and want to have them managed safely.

FUND token allows people to have their savings professionally managed in an efficient way without going through a bank.



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