LUISS

Department
of Business and Management

MSc in Corporate Finance
Course
Cases in Business Law

The regulation and legal aspects of hedge funds investing in digital assets

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Academic Year 2022/2023

"Despite market volatility, a fall in digital asset prices and the collapse of a number of crypto businesses, investment in crypto-assets is expected to remain strong in 2023. Traditional hedge funds, committed to the market in the longer term, are not only increasing their crypto-assets under management, but also maintaining – if not increasing – the amount of capital deployed in the ecosystem. However, it's clear that regulatory uncertainty and barriers increasingly weigh on investment decisions of many funds, with more than half of those surveyed noting they would likely invest/invest more in digital assets once greater transparency, regulatory certainty and risk management is in place."

John Garvey, Global Financial Services Leader, PwC United States

ABSTRACT

In recent years, digital assets have revolutionized the financial landscape, attracting a myriad of investors, with hedge funds at the forefront of this digital asset revolution. Despite market volatility, investment in digital assets is expected to remain strong in 2023. This thesis aims to provide a comprehensive understanding of the current state of hedge fund investments in digital assets, examining the general context of hedge funds, the characteristics of digital assets, the investment strategies adopted, and the regulatory and legal challenges these funds must face.

The thesis also examines regulatory frameworks across jurisdictions, such as the Cayman Islands, British Virgin Islands, and Gibraltar, to identify the most favorable environments for hedge funds investing in digital assets. The research methodology melds an exhaustive review of current literature with tangible insights gleaned from case studies, notably that of the Three Arrows Capital Fund. This fund's story underscores the pivotal role of regulatory compliance, risk management, and investor protection in the realm of digital assets.

In conclusion, the rise of digital assets has presented both opportunities and challenges for hedge funds. While the potential for high returns and portfolio diversification attracts hedge funds to invest in digital assets, the lack of clear regulation and the inherent volatility of the market pose significant hurdles. The thesis aims to shed light on the evolving relationship between hedge funds and digital assets, providing insights into investment strategies, regulatory challenges, and the potential for future growth in this dynamic market.

NO INVESTMENT ADVICE

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Introduction

In recent years, cryptocurrencies and other digital assets have revolutionized the financial landscape, attracting myriad investors, from individuals to institutional giants, with hedge funds at the forefront of this digital asset revolution. Hedge funds have shown a growing interest in digital assets due to their potential for high returns, innovative technology, decentralization, and low correlation with traditional asset classes. A Laser Digital survey found that 96% of hedge funds view digital assets as a diversification opportunity alongside traditional assets like fixed income, cash, equities, and commodities. Over the last year, the average allocation to digital assets managed by traditional hedge funds surveyed increased from 4% to 7%.

However, the regulatory landscape for hedge funds investing in digital assets is still evolving, and there are multiple legal aspects to consider. Recent surveys indicate that over 70% of hedge fund managers cite the lack of clear regulation as a major barrier to increasing their digital asset holdings. This uncertainty can deter potential investors and hinder the full scale adoption of digital assets in hedge fund portfolios.

This thesis aims to provide a comprehensive understanding of the current state of hedge fund investments in digital assets and offer insights for future strategies and regulatory considerations. Through a detailed analysis, we will examine the general context of hedge funds, the characteristics of digital assets, the investment strategies adopted, and the regulatory and legal challenges that these funds must face. We will also examine regulatory frameworks across jurisdictions to identify the most favorable environments for hedge funds investing in digital assets.

The research methodology is robust, combining a comprehensive review of existing literature with practical insights from case studies. One such case study will spotlight Three Arrows Capital, a hedge fund highlighting the potential rewards and inherent risks of this market. We will see the rise, fall, and legal intricacies surrounding 3AC, offering insights into the importance of regulatory compliance, risk management, and investor protection in the digital asset space.

Our research delves deep into the intricate relationship between hedge funds and digital assets. By analyzing historical data, we aim to track the growth and investment patterns of hedge funds in the digital asset domain. Furthermore, through in-depth interviews with fund managers and key stakeholders, we seek to gain insights into their perspectives on the opportunities and challenges presented by the crypto market.

According to a survey conducted by EY Parthenon to 250 institutional investors, a notable 48% expressed interest in investing in tokenized private funds, and 44% respectively in public funds and securities like bonds and stocks. The primary allure for institutional investors towards tokenized private funds and securities, such as bonds and stocks, lies in accessing novel asset categories, heightened liquidity, and greater transparency. Furthermore, institutional investors are showing increasing interest in crypto ETFs (Exchange-traded funds). These financial instruments offer investors the opportunity to access the cryptocurrency market without having to physically hold digital currencies. However, there are still regulatory hurdles that need to be addressed before more ETFs can be launched.

In conclusion, the rise of digital assets has presented both opportunities and challenges for hedge funds. While the potential for high returns and portfolio diversification attracts hedge funds to invest in digital assets, the lack of clear regulation and the inherent volatility of the market pose significant hurdles. Through our research, we aim to shed light on the evolving relationship between hedge funds and digital assets, providing insights into investment strategies, regulatory challenges, and the potential for future growth in this dynamic market.

CHAPTER 1
The Intersection of Hedge Funds and Digital Assets

This chapter will provide an overview of hedge funds and digital assets, including their characteristics and investment strategies. It will also compare the performance of different investment strategies and analyze the factors that influence their performance.
Before starting the discussion, it is important to note that the terms "digital assets" and "crypto" will be used interchangeably for ease of use in this research. However, there is a difference between the two terms that will be discussed in section 1.2.a of this chapter, where we will delve into the taxonomy of digital assets.

1.1 The Essence of Hedge Funds

When discussing hedge funds, they are often perceived as mysterious and opaque entities. This image has both benefited their lucrative operations and led to many misconceptions. It's commonly believed that hedge funds are the latest generation of managed savings products, that their investment strategies yield high returns at the cost of significant risks, and that they are more harmful than beneficial to the financial system. Their speculative nature is often blamed for recent financial crises.

Despite these negative connotations, hedge funds have a specific role in managed savings, embodying true "active" portfolio management. The general uncertainty surrounding them stems from the lack of a clear definition in legal doctrine and economic literature. As a result, every study on the topic offers its own definition, each influenced by the researcher's perspective and the research's objectives, further fueling the mystery and confusion. In this essay, it's essential to provide a clear and precise definition of hedge funds. To do this accurately and objectively, it's useful to first trace their brief history and then focus on current regulations.

In 1949, Alfred Winslow Jones founded "A.W. Jones & Co.", the first hedge fund in history [Caldwell T., 1995]. This flexible investment vehicle allowed him to achieve remarkable results in the American stock market. The public became aware of his success in 1966 when an article in Fortune magazine praised his work and introduced the term "hedge fund" [Loomis C.L., 1966].

Jones' investment strategy combined two techniques: "short selling" and "financial leverage". By selecting undervalued stocks with growth potential and overvalued ones with the opposite trend, he believed he could maximize returns while minimizing risk. He would go long on the former and short the latter. To amplify potential profits, Jones used borrowed funds, backed by his capital, to hedge against market risks. This strategy aimed to be market-neutral, yielding positive results regardless of market trends.
The success of this hedge fund was not solely due to its strategy but also two unique features:

1. Manager remuneration was not fixed but a percentage of the fund's profits, approximately 20%.
2. Managers invested their capital in the fund to align their interests with clients.

By the late 1960s, there were about 215 investment partnerships in the U.S., with 140 identified as hedge funds managing around $2 billion [President's Working Group on Financial Markets, 1999]. Over time, these funds diverged from Jones' original concept, with some characteristics fading and others becoming more pronounced.

In the 1980s, managers began adopting more speculative strategies on global markets, trading fixed-income securities, currencies, commodities, and interest rates. The perception of hedge funds as highly speculative and aggressive was further solidified by George Soros, who famously profited $2 billion in less than two months by betting against the European Monetary System [Kaletsky A., 1992]. Soros described hedge funds as "three-dimensional funds" based on:

1. Functional dimension (high use of financial leverage).
2. Environmental dimension (lack of regulation and oversight).
3. Social dimension (specific company structure offering advantages).

However, hedge funds have also seen significant failures. The most notable was the collapse of Long-Term Capital Management (LTCM) during the 1998 Russian crisis [Haubrich J.G., 2007]. Despite incurring losses of $4.5 billion, a consortium of financial intermediaries saved it from bankruptcy. This event marked a turning point for the hedge fund industry, prompting discussions about appropriate regulatory frameworks.

In summary, hedge funds are investment funds that employ sophisticated strategies, such as leverage, long and short positions, and investments in derivatives, to maximize investment returns. There is no academic definition that encompasses all the characteristics of hedge funds. They are often referred to as alternative investment instruments, speculative funds, or funds of funds, contrasting with traditional forms of regulated asset management that are subject to specific laws and regulations that limit their operations and risk exposure.

The term "hedge" in the Anglo-Saxon context literally means coverage or protection. In fact, hedge funds are specifically designed to manage assets, largely eliminating market risk. The philosophy of hedge funds aims to achieve positive management results that are independent of the performance of the financial markets in which they operate. They do not seek to outperform a stock index (used as a benchmark), but rather set an absolute value to be achieved each year while maintaining the level of volatility within a maximum threshold.

The characteristics of hedge funds make them distinct from traditional investment funds. They offer a greater degree of flexibility, allowing fund managers to employ various investment strategies and take advantage of market opportunities. Hedge funds can utilize leverage to amplify potential returns, although this also increases the risk of losses. Furthermore, hedge funds often charge performance fees based on the profits generated, aligning the interests of the fund manager with those of the investors.

1.1.a Organizational Structure, Compensation, and Investment Horizon

This section begins by discussing the organizational structure of a hedge fund, which typically involves outsourcing operational management to third parties such as investment advisors, prime brokers, and administrators. The section also explains the unique fee structure of hedge funds, which includes a fixed management fee and a performance fee based on the fund's profits. Finally, we discuss the investment horizon of hedge funds, which can vary depending on the specific fund and its investment strategy.

Organisational Structure

The organizational structure of a hedge fund can vary depending on the specific fund and its investment strategy. However, a shared feature is the outsourcing of operational management, or significant parts of it, to third parties. This approach offers the fund two advantages:

1. ***Cost Reduction***: Outsourcing operational management helps in reducing fixed costs. By making operational management costs variable based on the volume of outsourced work, hedge funds can optimize their cost structures and allocate resources more efficiently.
2. ***Enhanced Transparency***: Outsourcing operational management to larger, reputable entities addresses concerns related to the fund's lack of transparency. It signals to investors that financial management is in the hands of professionals, ensuring consistent and reliable oversight. This can help build trust and confidence among investors.

While there is limited information available specifically on the organizational structure of hedge funds, it is evident that outsourcing operational management is a common practice in the industry. This allows hedge funds to focus on their core activities of financial management and investment strategies while leveraging the expertise and resources of external service providers.

The most common hedge fund organizational model in the industry is the "foreign" hedge fund model [McCrary S.A., 2012], which includes:

- ***General Partner (Management Company)****:* This entity or individual is responsible for the overall management and performance of the hedge fund. They make crucial investment decisions, manage investment processes, and determine the risk level for subscribers. With significant decision-making autonomy, their primary objective is to achieve optimal investments based on the risk-return combination. The risk-return relationship is a pivotal element in a hedge fund's success, especially given the intricate nature of many of their strategies. The main risks they monitor include market risk, credit risk, and liquidity risk.
- ***Limited Partners****:* These are the investors who provide the necessary capital to the hedge fund. They do not participate in the day-to-day management and are only liable up to their initial investment.
- ***Investment Advisor (Asset Manager)****:* Operating as a separate entity, the investment advisor offers investment advice to the hedge fund and may also be tasked with executing trades on the fund's behalf.
- ***Prime Broker****:* This is an intermediary financial institution, typically a broker-dealer, originating from major financial institutions, that plays a crucial role in the settlement process, ensuring financial transactions are executed confidentially. They finance the manager, lend securities for short sales, provide credit lines, and acquire suitable guarantees against the credit granted by the fund. They also assume credit risk against the hedge fund in exchange for adequate compensation. Their responsibilities also encompass holding and depositing the fund's assets, overseeing the compensation and liquidation process, and registering all market operations. Due to their deep understanding of the fund, they often act as intermediaries in promoting the fund, broadening its appeal to potential investors.
- ***Administrator****:* This is an external entity that handles the back-office functions, including accounting, reporting, compliance, and transaction registration. They also ensure the fund adheres to its regulations, apply accounting principles correctly, calculate the fund's Net Asset Value (NAV), and settle commissions to the manager. By outsourcing administrative functions, the fund manager can focus

more on financial management, the primary activity of the fund, thus optimizing cost structures.

- ***Custodian****:* This entity is entrusted with the responsibility of holding and safeguarding the assets of the hedge fund.
- ***Auditor****:* They ensure the financial statements of the hedge fund comply with accounting standards and regulations. Their primary task is to certify the fund's NAV, ensuring the calculation criteria align with current regulations.
- ***Investors****:* These are individuals or entities with significant capital ready to be invested in hedge funds. Their extensive financial knowledge makes them acutely aware of the risks associated with such investments.

Regarding hedge funds that invest in digital assets, the organizational structure may not differ significantly from traditional hedge funds. However, some hedge funds that invest in digital assets may have a more technology-focused approach, with a greater emphasis on data analysis and algorithmic trading. Additionally, some hedge funds may have a more decentralized structure, with a greater degree of autonomy given to individual traders or teams. Overall, the organizational structure of a hedge fund is designed to provide a framework for effective management and oversight of the fund's investments.

Compensation

Hedge funds have a unique fee structure compared to other funds. Hedge fund managers receive a fixed management fee, usually between 1% and 2.5% of assets per year, and a performance fee, typically 10%-30% of annual or quarterly profits. The management fee is charged regardless of the fund's performance, while the performance fee is earned only if the fund achieves positive returns acting as a strong incentive for managers [Weiss H.H., 2019].

Particularly, the typical fee arrangement for digital asset hedge funds is a 2% management fee coupled with a 20% performance bonus, commonly referred to as the 2/20 structure (the famous “2 + 20” debit model dating back to the creation of these by Alfred Jones in 1949). Nonetheless, the overall average fees across various funds are generally less and can differ based on the type of fund. Funds focused on indexes or other passive approaches usually don't impose a performance fee. In contrast, funds that adopt more proactive investment tactics might charge greater performance fees, and occasionally, their management fees might be reduced (Figure 1).

Figure 1: Crypto Fund Average Fees

Fund Type	Average Perf. Fee	Average Mgmt. Fee
Fund of Funds	15.93%	1.39%
Index Fund / Tracker	6.67%	1.41%
Long-Only	15.68%	2.07%
Multi-Strategy/Other	19.03%	1.69%
Quantitative/Algorithmic	21.88%	1.50%
Venture-Style/ICOs	22.86%	1.43%
TOTAL	**18.21%**	**1.65%**

Source: Crypto Fund Research, 2023. 2023 Q1 Crypto Fund Report

Two primary variations of this incentive structure exist: the *high water mark* and the *hurdle rate* [RQSI, 2020].

The high water mark sets a minimum return level below which managers are not entitled to any incentive fees. This provision protects investors from paying unjustified performance fees during periods of low returns. The minimum return rate is outlined in the fund's regulations and can be tied to various discretionary factors. This ensures that hedge fund managers receive incentive fees only if the fund surpasses its previous peak value. Moreover, the high water mark prevents managers from earning performance fees on gains used to offset previous losses and encourages them to improve performance and increase the fund's value. However, this might push managers to take risky bets in an attempt to recover losses and reach the high water mark, potentially jeopardizing investors.

Instead, the hurdle rate mandates that performance fees are only earned on returns exceeding a predetermined rate, which can be a chosen market rate or a fixed one. Managers must achieve this specified return before sharing in the profits. This clause is more restrictive than the high water mark, as managers won't receive performance-related compensation if the fund's value decreases. So, the hurdle rate is the minimum amount of profit or returns that a hedge fund must earn before it can charge an incentive fee. It not only provides an incentive for managers to maximize investor returns but also guarantees that investors receive a minimum return before managers can earn performance fees.. However, it's worth noting that hurdle rates typically favor investments with high rates of return on a percentage basis, even if the dollar value is smaller [Foster D.P. et al., 2010].

In summary, hedge fund managers receive a fixed management fee and a performance fee, which serve as incentives for their performance. Both mechanisms aim to protect investors and ensure that fund managers are rewarded for good performance. That's why, if a fund includes both a hurdle rate and a high-water mark, the manager cannot receive a performance fee unless the fund's value is above the high-water mark and returns have exceeded the hurdle rate.

Investment Horizon

Hedge funds are known for having complicated redemption restrictions, unlike traditional open-end investment funds that provide daily liquidity for investors. In fact, one of the main challenges faced by digital asset hedge funds is the liquidity of their investments.
The main purpose of redemption restrictions in hedge funds is to match investor redemption risk with the liquidity of the underlying investments. Stricter redemption terms in hedge funds can ensure longer flows of management fee income for hedge fund managers, as they prefer to tie up investors' money for as long as possible. The mix of redemption terms in an individual hedge fund depends on the supply and demand for investments in that particular fund and the broader demand for hedge fund-like investments. Hedge fund redemption frequencies often coincide with subscription frequencies, although some hedge funds offer more frequent opportunities for investors to inject capital rather than withdraw it.

Digital assets are often highly volatile and can experience significant price swings in a short period of time. This can make it difficult for funds to liquidate their holdings quickly in the event of a large redemption request from investors. As a result, many digital asset hedge funds have longer lock-up periods than traditional hedge funds. The lock-up period refers to the time during which investors cannot redeem their shares. Shares are typically locked for periods ranging from 1 to 12 months and can extend up to 5 years in some cases. So, the lock-up period is designed to stabilize the share price and bolster investor confidence [Preqin, 2023]. It achieves this by preventing a flood of shares onto the market, ensuring a fund doesn't require excessive cash on hand, and stopping key individuals from signaling a desire to sell during pivotal times. Notably, not all trading halts during this period; only those holders subject to the lock-up are restricted from selling.

This particular period is primarily because hedge funds typically invest in illiquid assets. A premature withdrawal by investors could force fund managers to liquidate assets hastily, negatively impacting both the managers and remaining investors [European Central Bank, 2007]. The duration of this lock-up is a managerial decision, with the length potentially influencing investor sentiment. Some investors might negotiate for a shorter lock-up or even its complete omission, solidifying such agreements through side letters with the hedge fund manager.

In the 4th Annual Global Crypto Hedge Fund Report 2022 by PWC, approximately 50% of participants indicated they don't employ either hard or soft lockup mechanisms. With hard lockups, investors can't withdraw their funds until the specified period ends, whereas soft lockups allow early withdrawals with a penalty fee. Nonetheless, some funds across different strategies do use these lockups, typically setting them for a year. The conditions for these lockups have been consistent with the past couple of years. The frequency of fund redemptions remains the same, with monthly redemptions being the most prevalent. As the crypto hedge fund sector grows, there's a variation in lockup terms across funds. From those surveyed in the report, long-only quantitative funds generally don't use hard lockups, but many have soft ones, offering more leeway for investors. Discretionary long/short funds tend to provide more flexibility, often having a shorter six-month lockup duration [PwC, 2022].

Figure 2: Average digital asset hedge fund redemption terms by strategy

Strategy	Redemption Frequency	Redemption notice period	Avg. Lock up period	Hard lock	Soft lock
Market Neutral (*New)	Monthly	30 days	1 year	30%	22%
Discretionary Long Only Crypto	Monthly	30 days	3 year + 2 year extension	18%	18%
Quantitative Long / Short Crypto	Monthly	30 days	1 year	42%	16%
Quantitative Long only (*New)	Monthly	30 days	None	0%	40%
Discretionary Long / Short Crypto	Monthly	30 days	6 months	11%	56%

Source: PwC, 2022. 4th Annual Global Crypto Hedge Fund Report

Overall, the lock-up clause enhances fund management by ensuring fund availability, streamlining subscriber transitions, aligning with medium-term strategies, and reducing the risk of excessive redemption requests that could jeopardize the investment strategy. However, it also underscores the inherent risks of hedge funds, particularly the low liquidity of investments that can be tied up for varying durations. Specific duration of the lock-up period is determined by the fund manager or management team, taking into account these considerations to strike a balance between investor expectations, fund performance, and operational requirements.

1.1.b Alternative Management Models

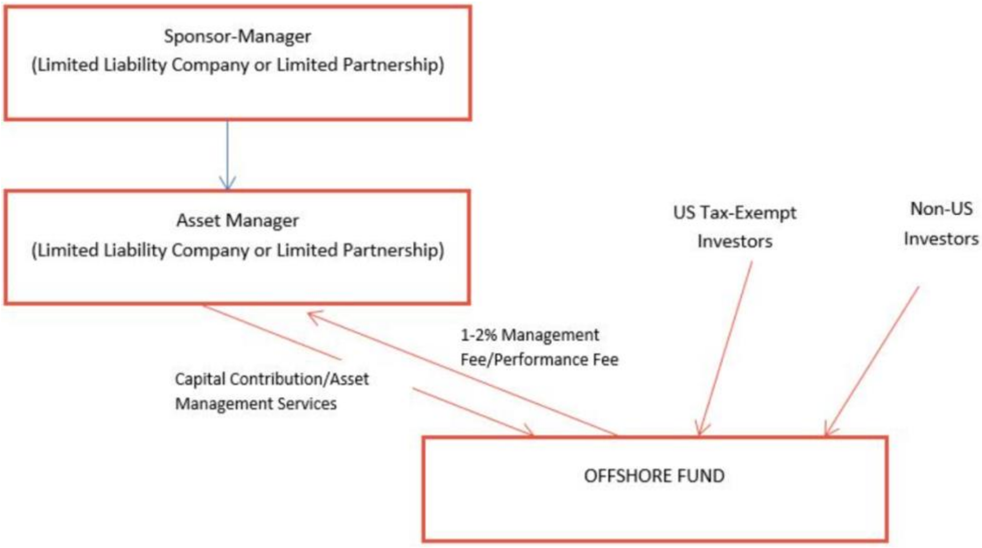
Over the years, hedge fund managers have evolved and introduced diverse management and organizational methods as alternatives to the single strategy, enhancing their investment service offerings. There are several alternative management forms to hedge funds, including *offshore funds*, *fund of funds*, *master-feeder fund*, *umbrella fund*, and *side-by-side funds*. Let's discover them one by one.

Offshore funds

Offshore funds are investment funds that are domiciled in tax havens [Borsa Italiana, 2023]. They can be divided into two categories: those managed by large institutions such as banks, financial companies, and insurance companies, and those managed by private money managers. The offshore fund is generally structured as a joint-stock company, which allows it to take advantage of organizational benefits typical of this structure without being subject to the most onerous tax impositions and investment constraints. Investors take on the role of shareholders and receive dividends distributed by the company. The joint-stock company structure allows for the liquidation of shares and their purchase with greater liquidity for investors. The offshore fund can be created by a manager who decides to direct their activity towards non-resident investors or as an alternative to the constraints imposed by national authorities [Deneault A., 2015]. Due to the reasons previously mentioned, while a majority of hedge funds are managed from London and New York, approximately 75% of the global total are virtually and tax-wise based in the Cayman Islands, a renowned tax haven [Lore J.S., 2023].

For example, a manager who owns a hedge fund in the US, whose fund has already reached the numerical limits of investors provided for by the limited partnership form, cannot establish a new hedge fund. US legislation provides that multiple funds managed by a single entity are considered a single fund and therefore subject to registration with the SEC with the limitations that follow. The solution is represented by the establishment of a fund with a legal domicile in an offshore territory. Another advantage offered by allocating the fund to an offshore center is the significantly more favorable tax regulations, which allow for less taxation on profits provided that the profits earned remain in the country where the fund is legally domiciled. According to legislation, profits generated by offshore funds are exempt from taxation if the fund carries out most of its organizational activities in the foreign country where it is domiciled. This results in a more complex structure compared to a domestic hedge fund, with a coordinating body that performs centralized digestion functions located in the foreign country and a decentralized system of managers, each responsible for the market they oversee.

Figure 3: Offshore fund structure



Source: Jin, R., 2023. ABCs of Hedge Fund Formation

Unlike a domestic hedge fund, the offshore fund entails higher management expenses but, at the same time, enjoys a wider possibility of collection and a consequent lower minimum investment threshold, as it is not subject to limitations on the number of investors.

Hedge funds and offshore funds share some similarities, such as their investment strategies and the fact that they are both collective investment vehicles. However, there are also some key differences between the two:

- ***Legal structure***: Hedge funds are typically structured as limited partnerships, while offshore funds are often structured as corporations. This allows offshore funds to take advantage of organizational benefits, such as greater liquidity for investors, without being subject to the same tax and investment restrictions as other types of funds.
- ***Regulation***: Hedge funds are subject to more regulation than offshore funds, which are often domiciled in tax havens with more lenient regulatory environments. This can make offshore funds more attractive to investors looking for greater flexibility and autonomy in their investments.

- ***Investor base:*** hedge funds typically have a limited number of high-net-worth investors, while offshore funds can have a broader investor base. This can make offshore funds more accessible to a wider range of investors, but can also make them more vulnerable to market fluctuations and other risks.
- ***Investment strategies***: While both hedge funds and offshore funds use a variety of investment strategies, hedge funds tend to be more focused on generating high returns through active management and risk-taking. Offshore funds may also use active management strategies, but may be more focused on preserving capital and generating steady returns over the long term.

Fund of funds

Hedge Fund of Funds (FoFs) serve as collective investment schemes that pool resources to invest in a variety of hedge funds. In Italy, this approach has gained traction, primarily due to the lack of a domestic "Prime Broker" infrastructure.

In essence, FoFs don't invest directly in stocks or derivatives. Instead, they buy shares from multiple hedge funds. Italy's Decree 228/1999 introduced this concept, setting specific limits on investments in individual Collective Investment Schemes (OICR). The core responsibility of a FoF manager is to judiciously allocate assets across different hedge funds, each managed by distinct entities. The prowess of a FoF is gauged by its ability to cherry-pick the top-performing hedge funds. This involves a dual analysis approach: quantitative, evaluating past performances, risk profiles, used leverage, and fee structures; and qualitative, assessing investment tactics, managerial experience, and the clarity of shared information [Strachman D.A. et al., 2013].

Typically, FoFs present a lower risk profile than singular hedge funds. This is because they spread their investments across a range of non-interlinked funds, thereby diluting both managerial and strategic risks. Consequently, while their returns might not match those of aggressive hedge strategies, they tend to be steadier. The composition of hedge funds within a FoF can vary, but a diverse mix can mitigate concentration risks. Key factors in selecting hedge funds include analyzing their past returns, inherent risks, inter-

fund correlations, the credibility of the manager, and the strategies they employ. The cumulative performance of a FoF is essentially the sum of the outcomes from each individual fund manager's strategies.
FoFs can be categorized into various strategies:

- ***Target return***: Aims for a specific return, choosing funds that promise minimal volatility.
- ***Maximal return approach***: Uses broad macroeconomic indicators to select funds and then zeroes in on individual managers.
- ***Dedicated strategy***: Focuses on hedge funds that target specific market sectors, diversifying based on fund managers rather than investment strategies.
- ***Multistrategy***: Mixes and matches diverse hedge funds, balancing high-return funds with more conservative ones to stabilize portfolio volatility.

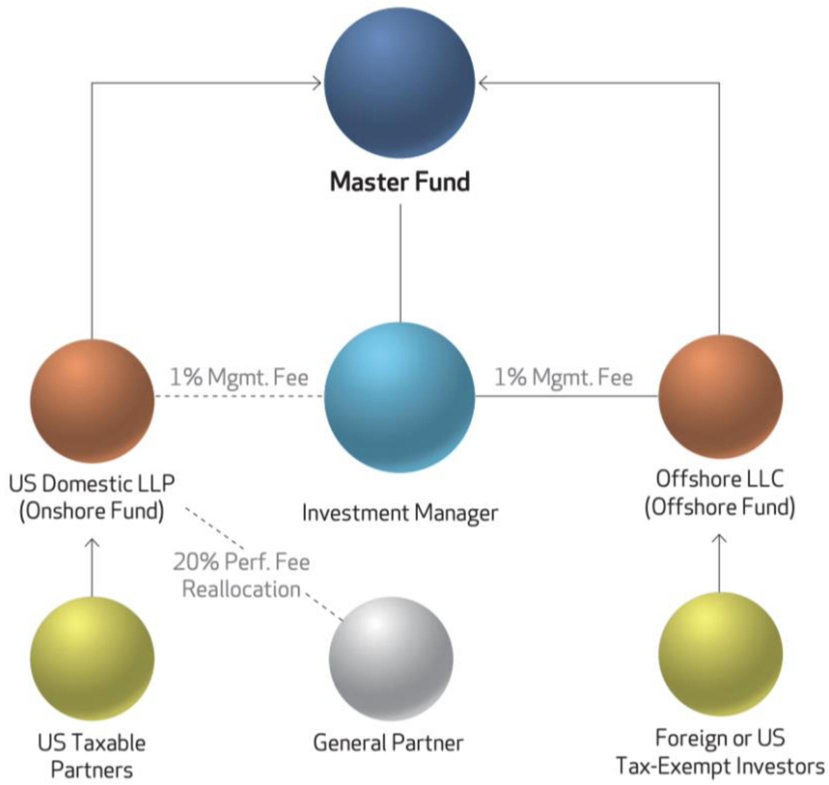
While FoFs offer a diversified risk landscape and often have more accessible entry points than individual hedge funds, they tend to be pricier due to dual fee structures: one for the individual hedge fund managers and another for the FoF manager. Other potential downsides include reduced agility and liquidity compared to individual hedge funds and a potential opacity in portfolio composition. However, from an operational standpoint, FoFs are less complex to oversee than individual hedge funds. They also provide access to investment opportunities that might otherwise be unavailable, especially as many standalone hedge funds are often reluctant to accept new investors when nearing their operational capacity [De Gregori & Partners, 2016].

Summing up, Hedge funds and FoFs are both alternative investment vehicles, but they differ in their investment strategies and structures. Hedge funds are typically private investment partnerships that use a range of investment strategies to generate high returns for their investors. FoFs, on the other hand, invest in a portfolio of hedge funds, rather than directly investing in securities or other assets. This means that FoFs offer greater diversification and lower risk than hedge funds, but also lower potential returns. Additionally, while hedge funds are often structured as limited partnerships, FoFs are typically structured as mutual funds or other types of investment companies.

Master-Feeder Fund

The master-feeder fund structure (Hub and Spoke) is a widely employed technique for organizing investment funds, allowing fund managers to take advantage of the efficiencies of larger asset pools while creating investment funds for separate market niches [Dempsey M.C et al., 2016]. In this structure, investors deposit capital into a "feeder" fund, which in turn invests in a "master" fund managed by the same investment advisor. The master fund is responsible for making all portfolio investments and conducting all trading activity, while the feeder funds serve as the entry point for investors.

Figure 4: Master-feeder fund structure



Source: Advent, 2013. Understanding master-feeder accounting

One of the primary reasons for utilizing a master-feeder structure is to reduce trading and administrative costs. Since the master fund manages all investments, trading costs are reduced by eliminating the need to split tax lots. Additionally, the master-feeder structure allows for attracting a broader and more diversified group of investors, including U.S. taxable investors and foreign and tax-exempt investors. This can lead to greater efficiency in managing investments and reduce the administrative burden for the fund manager. However, there are also some drawbacks to using a master-feeder structure. For instance, feeder funds are generally used only by hedge funds, which in the United States are available solely to accredited investors. Furthermore, since the master-feeder structure often combines investors from different countries, there may be competing strategies at play. A master-feeder structure is similar to a fund of funds, but the main difference is that the master fund handles all the investing. In a fund of funds, each fund invests in multiple other funds, while in a master-feeder structure, feeder funds invest in a single master fund that manages all investments.

The investment process in a master-feeder structure begins with investors depositing capital into the feeder fund. The feeder fund then purchases "shares" of the master fund, much like it would buy shares of any company's stock. By buying into the master fund, the feeder fund receives all of the master fund's income attributes, including interest, gains, tax adjustments, and dividends. The master fund's profits are then allocated to all of its constituent feeder funds [Advent, 2013].

In summary, the master-feeder structure is a common investment mechanism used by hedge funds to reduce trading and administrative costs, attract a broader group of investors, and manage investments more efficiently. However, it also presents some disadvantages, such as the limitation to accredited investors and the possibility of competing strategies among investors from different countries.

Umbrella fund

Introducing capital from a new investor class doesn't always warrant the extra costs of establishing a new feeder fund. To streamline costs and setup durations, managers frequently opt against adding new feeder funds [Financial Conduct Authority, 2017]. They address the varied investor requirements by introducing diverse share classes within an existing feeder fund or the overarching fund, leading to an "umbrella" configuration.

This framework can adjust to different currency preferences among offshore fund investors.
For instance, while US tax-exempt investors might gravitate towards dollar-denominated shares, European and Japanese investors might lean towards euro and yen shares, respectively. Offering a range of currency-denominated share classes within a fund presents a more economical and administratively efficient alternative than expanding a master-feeder structure with numerous feeder funds.

An umbrella fund's advantage also lies in its ability to offer multiple investment products under a singular corporate entity. For example, while "Class A" shares might embody an equity long-short approach, "Class B" shares could be geared towards fixed-income arbitrage. If an offshore fund counts restricted persons among its investors, it can only access this market by distinctly categorizing its subscribers. Often, managers create separate share classes to adhere to these regulations, with the onus on the fund's administrator to allocate market gains exclusively to non-restricted investors.

However, the umbrella approach isn't devoid of complications. When diverse share classes align with portfolios steered by different financial tactics, challenges arise. A significant investor concern is the risk of cross-collateralization during defaults. In an offshore entity overseeing several portfolios, it's challenging to confine liabilities to a specific portfolio, ensuring one portfolio's obligations don't adversely affect another. High-risk strategies, especially those with significant leverage like digital assets, don't align well with a multi-strategy umbrella fund. In such scenarios, a multi-fund setup often proves more protective and preferable for investors than a multi-class structure.

Side-by-side funds

The side-by-side (parallel) structure offers a simpler alternative to the master-feeder setup for managers aiming to attract capital from non-American investors and US tax-exempt investors [Sadis, 2022]. It has a U.S. fund and a domestic fund that parallel each other in trading and have the same investment manager but maintain separate investment portfolios. In this setup, U.S. investors typically invest in a domestic limited partnership, while foreign and US tax-exempt investors choose an offshore corporation. Unlike the master-feeder structure, which has a third entity (the master fund) to consolidate assets for joint management, the side-by-side structure requires two separate brokerage accounts. The prime broker is responsible for proportionally allocating transactions based on the investment manager's directions. While this additional service from the prime broker incurs extra costs, the side-by-side structure generally has lower setup and maintenance costs compared to the master-feeder approach.

U.S. investment managers who already manage an onshore fund and aim to increase their managed capital by targeting international investors often opt for the side-by-side structure. They pair their U.S.-domiciled fund with a newly established offshore fund. If a U.S.-based LP or LLC already exists, it's fiscally disadvantageous to use it as a feeder fund in a new master-feeder structure. The Taxpayer Relief Act of 1997 mandates tax payments on capital gains made by a vehicle that hasn't been distributed to investors. This can deter the establishment of a master-feeder structure using a long-standing onshore fund with significant investment gains. In such cases, the side-by-side structure presents a more tax-efficient alternative [Harneys, 2023].

1.1.c. Hedge Funds vs. Mutual Funds: Key Differences

While both hedge funds and mutual funds serve as investment vehicles offering managed portfolios, they cater to distinct investor needs and operate under different frameworks. Mutual funds, often referred to as *fondi comuni d'investimento* in Italian, are collective investment schemes aiming to mirror a specific market index or benchmark. In contrast, hedge funds strive for absolute returns, independent of any benchmark. The general public can access mutual funds [FINRA, 2023], whereas hedge funds are typically reserved for high-net-worth individuals and institutional investors.

Hedge funds employ more intricate and sophisticated strategies, such as long/short equity, event-driven, and global macro approaches. They enjoy greater flexibility in their investment choices, leveraging techniques like short selling and high leverage for risk mitigation or enhanced returns. Mutual funds, however, operate within stricter investment constraints, limiting their leverage and security types [Mobious M., 2015].

The fee structures between the two also differ. Mutual funds primarily charge based on assets under management, while hedge funds levy both a management and a performance fee. Additionally, hedge funds often have extended investment horizons with lock-up periods ranging from 1-12 months to 5 years, contrasting the liquidity mutual funds provide. Notably, hedge funds demand higher minimum investments, with non-professional investors in Italy, for example, facing a threshold of €500,000.

Regulatory oversight and transparency set them further apart. Mutual funds undergo rigorous regulations, especially concerning short-selling and derivatives. They're mandated to register with the SEC, for instance, ensuring adherence to stringent disclosure, reporting, and governance standards. This includes providing daily NAV updates and detailed insights into their holdings, strategies, and fees. Hedge funds, conversely, aren't obligated to register with the SEC and face fewer regulations. They offer limited information to investors, with performance typically disclosed monthly or quarterly [SEC, 2017].

In essence, while both investment vehicles cater to investors, their objectives, restrictions, fees, liquidity, oversight, transparency, and strategies vary significantly. Mutual funds prioritize benchmark-aligned returns and transparency, while hedge funds emphasize absolute returns, flexibility, and discretion

1.2 Delving into Digital Assets

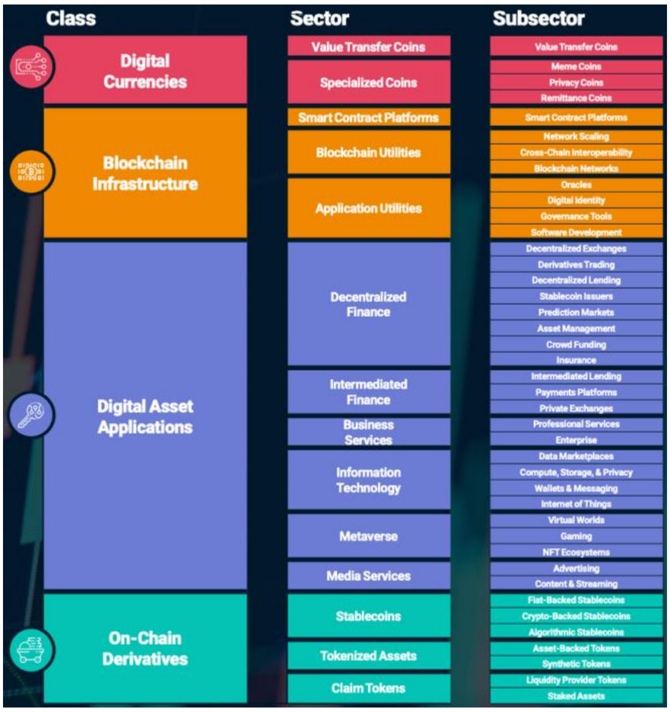
Digital assets are a growing area of interest for many financial institutions and investors, as they offer new investment opportunities and the potential for diversification. They are typically based on blockchain technology and include all assets that can be stored, owned, or traded digitally [Credit Suisse, 2023]. Institutional investors are particularly attracted to cryptocurrencies and tokenized private funds and securities, such as bonds and stocks, as these offer access to new asset types, increased liquidity, and greater transparency.

1.2.a Classifying the Digital Asset Landscape

The realm of digital assets has evolved into a multifaceted landscape. Encompassing thousands of assets and an array of products and services spanning various blockchain technologies, digital assets are steadily emerging as substitutes for traditional payment, storage, trading, and settlement systems. To add structure and clarity to this growing universe, MSCI, Coin Metrics, and Goldman Sachs have developed Datonomy, a taxonomy for classifying digital assets with a standardized process that will evolve alongside the ecosystem [MSCI, 2022].

Datonomy is a taxonomy for classifying a broad universe of digital assets with a standardized process that will evolve alongside the ecosystem. Datonomy is designed to help digital asset users, investors, researchers, and others navigate the ecosystem through the same structural lens. It adheres to the following principles in its methodology: context-of-use, intuitive, hierarchical, and iterative. It’s designed with three levels of classifications that include 4 Classes, 14 Sectors, and 41 Sub-Sectors, as we can see in the following table:

Figure 5: Datonomy, taxonomy for classifying digital assets



Source: MSCI, 2022. DATONOMY™ Methodology

To be eligible for datonomy classification, digital assets must be widely available to investors globally and must have been traded at least once in the past 30 days on at least 25% of eligible digital asset exchanges identified using data provided by Coin Metrics in the Exchange Coverage Universe. In the following lines, we will give an explanation of each class and sub-sector in order to understand the peculiarities of these digital assets. The latter are categorized into four main classes:

1. ***Digital Currencies***: Assets native to blockchains that primarily enable the transfer of value. They can be classified into:
   - *Value Transfer Coins*: Blockchains inherently support them, and their main function is to facilitate value transactions for standard on-chain payments (e.g. Bitcoin).
   - *Specialized Coins*: Enable value transactions on the blockchain tailored for users who have particular interests, like privacy, community engagement such as Dogecoin, or international payments.
2. ***Blockchain Infrastructure***: Assets that support the development, interoperability, scale, and growth of blockchain technologies. Sub-sectors of this classes include:
   - *Smart Contract Platforms*: Tokens inherent to blockchain systems enable the running of smart contracts and support a wide variety of decentralized applications (e.g. Ethereum).
   - *Blockchain Utilities*: Tokens designed to enhance the fundamental infrastructure of a blockchain, promoting scalability, seamless blockchain interactions, and smooth operations. Polkadot is an example of this sub-sector.
   - *Application Utilities*: Tokens that facilitate swifter application development, streamline integration (e.g. Chainlink), and improve connections to users and data, both on-chain and off-chain.
3. ***Digital Asset Applications***: Assets that are native to an on-chain application that provides a specific service or product to blockchain users. Particular sub-sectors of this class are:
   - *Decentralized Finance*: Tokens granting users financial stakes, trading capabilities, or blockchain-based counterparts to conventional financial offerings (e.g. Uniswap).

- *Intermediated Finance*: Tokens that streamline financial tasks under custody, such as transactions and lending, within a corporate platform like Cronos.
- *Business Services*: Tokens offering tools or solutions for crafting blockchain-centric platforms tailored for professionals or large-scale businesses. VeChain, for example, is a blockchain platform designed to enhance supply chain management and business processes.
- *Information Technology*: Tokens that bolster the management, distribution, consolidation, processing, and alteration of on-chain information for software creators (e.g. Filecoin).
- *Metaverse*: Tokens linked to a digital, blockchain-driven universe, aiding in the ownership and exchange of virtual assets such as Axie Infinity.
- *Media Services*: Tokens that enable decentralized control and dissemination of content across diverse media platforms. In this field it's worth mentioning Audius, a decentralized music streaming platform that aims to empower artists and give them more control over their music creations.

4. ***On-Chain Derivatives*:** Assets that are based on, or have a value linked to, a different underlying asset or group of assets. In the sub-sectors here, we find:
    - *Stablecoins*: Tokens linked to a government-issued currency, like Tether or USDC, allowing access to blockchain applications without the volatility of native digital tokens.
    - *Tokenized Assets*: Tokens mirroring the value of another asset, whether on-chain or off-chain, anchored to the worth of the referenced asset. Pax gold, for example, is an asset-backed token where one token represents one fine troy ounce of a London Good Delivery gold bar.
    - *Claim Tokens*: Tokens representing a claim or credit for an underlying asset that has been lent or staked to accrue interest (e.g. Lido Staked Ether).

1.2.b. Hedge Fund Investment Trends in the Digital Realm

Hedge funds have shown a growing interest in digital assets due to their potential for high returns, innovative technology, and decentralized nature. According to a survey by Laser Digital, Nomura's digital assets subsidiary, 96% of hedge funds see digital assets as an investment diversification opportunity alongside traditional asset classes such as fixed income, cash, equities, and commodities [Laser Digital, 2023]. Over the last year, the average allocation to digital assets managed by traditional hedge funds surveyed increased from 4% to 7%. Meanwhile, 93% of digital asset hedge funds surveyed expect the market capitalization of crypto-assets to be higher at the end of 2023. Driven by robust fund performance, the assets under management (AUM) of crypto funds surged by almost $10 billion in the initial quarter of 2023, reaching an estimated total of approximately $57.9 billion, as calculated by Crypto Fund Research.

Figure 6: Cumulative Crypto Fund AUM

Source: Crypto Fund Research, 2023. 2023 Q1 Crypto Fund Report

Although a majority of crypto funds are still of modest size, the percentage overseeing $10 million or less is diminishing due to their ability to draw in new capital and enhance their AUM with strong performance. Currently, 35% of crypto funds handle $10 million or less, while the segment of funds managing in excess of $100 million is on the rise.

These trends indicate the increasing importance of digital assets within the hedge fund market and the potential for further growth in the future. The integration of digital assets

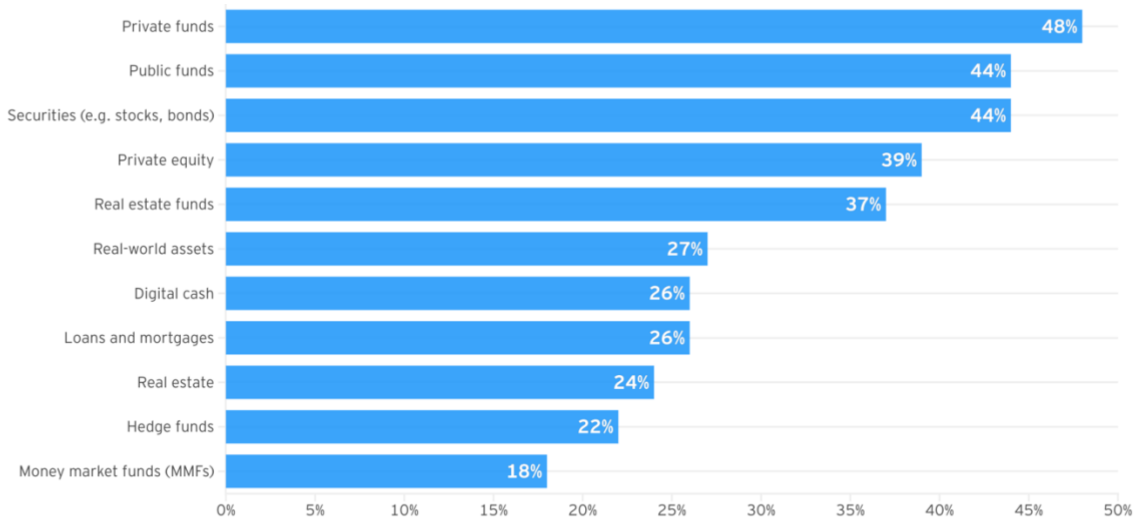
into hedge fund strategies reflects the evolving investment landscape and the recognition of the opportunities presented by this emerging asset class.
Some of the main reasons hedge funds invest in digital assets include:

- ***High potential upside***: Digital assets, particularly cryptocurrencies like Bitcoin and Ethereum, have shown significant price appreciation in recent years, attracting hedge funds seeking high returns.
- ***Innovative technology play***: Blockchain technology, which underlies many digital assets, is considered a groundbreaking innovation with the potential to disrupt various industries. Hedge funds may invest in digital assets to gain exposure to this technology.
- ***Decentralization***: Digital assets often operate on decentralized networks, which can provide increased security, transparency, and reduced reliance on traditional financial intermediaries.
- ***Uncorrelated to other assets***: Digital assets have shown a low correlation with traditional asset classes, making them an attractive diversification option for hedge funds.

Despite market volatility and challenges in the digital asset space, hedge funds remain committed to the market in the long term, increasing their crypto assets under management and maintaining or even increasing the amount of capital deployed in the ecosystem. A PwC report found that the percentage of traditional hedge funds investing in digital assets fell from 37% in 2022 to 29% in 2023, but the proportion of AUM among those that remain invested in the asset class has almost doubled [PwC, 2023]. Most of these hedge funds are invested in the two largest cryptocurrencies by market capitalization and exchange volume, Bitcoin and Ethereum, reflecting a more conservative investment approach.

Another important aspect is the tokenization of assets. Tokenization involves transforming an asset or its ownership rights into a digital format through blockchain technology. This process brings numerous advantages, such as tapping into new customer bases and capital sources, enhancing liquidity, facilitating fractional ownership, streamlining settlements by eliminating middlemen, reducing market barriers, optimizing operations, cutting costs, and leveraging automation via smart contracts, among others. There are two perspectives: investing in tokenized assets and converting one's assets into tokenized form. According to a survey conducted by EY Parthenon to 250 institutional investors, a notable 48% expressed interest in investing in tokenized private funds, and 44% respectively in public funds and securities like bonds and stocks.

Figure 7: Investment preferences of tokenised assets



Source: EY Parthenon, 2023. Staying the course: institutional investor outlook on digital assets

The primary allure for institutional investors towards tokenized private funds and securities, such as bonds and stocks, lies in accessing novel asset categories, heightened liquidity, and greater transparency.

In addition, institutional investors are showing increasing interest in crypto ETFs. These financial instruments offer investors the opportunity to access the cryptocurrency market without having to physically hold digital currencies. In particular, ETFs tracking Bitcoin or the Metaverse are attracting the attention of investors. In fact, BlackRock's ETF filing pushed Grayscale's Bitcoin Trust to yearly highs, and it is hoped that BlackRock may secure the first US Bitcoin ETF [Suberg W., 2023]. This, combined with the demands of other major asset managers, could have a significant impact on the mass adoption of digital assets.

Figure 8: Spot-Bitcoin ETF Applications in 2023

Issuer *(Ticker)*	Company	Filing Date	19b-4 Posted Date	19b-4 SEC Date	19b-4 Federal Register	First Deadine	Second Deadline	Third Dealine	Final Deadline
ARK 21Shares Bitcoin ETF(Re-filing) *(ARKB)*	21Shares & ARK	6/28/21	4/25/23	5/9/23	5/15/23	6/29/23	8/13/23	11/11/23	1/10/24
iShares Bitcoin Trust	BlackRock	6/15/23	6/29/23	7/13/23	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Bitwise Bitcoin ETP Trust (Re-filing)	Bitwise	10/14/21	6/28/23	7/12/23	7/18/23	9/1/23	10/16/23	1/14/24	3/14/24
VanEck Bitcoin Trust(Re-filing)	VanEck	12/30/20	6/30/23	7/13/23	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Wisdomtree Bitcoin Trust(Re-filing) *(BTCW)*	Wisdomtree	12/8/21	6/30/23	7/13/23	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Invesco Galaxy Bitcoin ETF(Re-filing)	Invesco & Galaxy	9/21/21	6/30/23	7/13/23	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Wise Origin Bitcoin Trust(Re-filing)	Fidelity	3/24/21	6/30/23	7/13/23	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Valkyrie Bitcoin Fund(Re-filing) *(BRRR)*	Valkyrie	1/22/21	7/3/23	7/17/23	7/21/23	9/4/23	10/19/23	1/17/24	3/19/24

Note: Dates are estimates and deadlines, so they may come earlier.
Source: Bloomberg Intelligence, SEC.gov
Bloomberg

Source: Bloomberg Terminal, 2023. List of recent Bitcoin spot ETF applicant filing dates and deadlines.

As of August 2023, Although the cryptocurrency market is down 60% from all-time highs, institutional investors continue to show interest in crypto ETFs.

However, there are some regulatory limits for these types of ETFs. In the United States, for example, the Securities and Exchange Commission (SEC) has not yet approved any Bitcoin ETFs, although there are several applications pending. In Europe, there are a few Bitcoin ETFs available, such as the BTCetc Bitcoin Exchange Traded Crypto (BTCE) on the Deutsche Börse. Despite the growing interest from institutional investors, there are still regulatory hurdles that need to be addressed before more ETFs can be launched.

Collaborations between traditional financial institutions and digital asset-focused companies are becoming more common, as they aim to help institutional investors identify and understand the investment universe for digital assets and their relationship with traditional assets. For example, MSCI has partnered with Menai Financial Group, a leading provider of institutional-grade digital asset investment products and trading services, to develop innovative solutions for institutional investors to navigate the digital asset market [MSCI, 2023].

As digital assets become more mainstream, financial institutions are working on creating custody solutions for these assets, ensuring the safekeeping of private keys and providing secure storage and easy access to buy and sell digital assets. This is essential for building trust among institutional investors and facilitating their entry into the digital asset market. Demand for third-party custody is especially strong, with 80% of digital asset hedge funds and traditional hedge funds adopting it as their primary custody choice [PwC, 2023]. Institutional investors are also looking for regulatory clarity and compliance when selecting a digital asset partner, as this is an important factor for the future growth of the market. There is noticeable demand by both digital asset and traditional hedge funds for increased regulation of trading venues, and, client asset segregation is the most welcome regulation for exchanges with whom hedge funds trade As the digital asset market continues to evolve, it is expected that more financial roles will be involved in different aspects of the industry, such as development, investment, and risk management.

1.2.c Institutional Investors' Approach to Hedge Funds

Many hedge funds have an aspiration: to draw the attention of, and eventually gain investments from, institutional investors. Some funds, particularly those helmed by industry veterans, might secure initial support from these large-scale investors. In contrast, newcomers or startups in the hedge fund sector often need to establish a solid reputation and track record first.

Institutional investors represent a diverse group, encompassing entities like state and corporate pension plans, educational and non-profit endowments, banks, insurance firms, and various other corporations. At times, some sizable hedge funds might invest in their smaller or emerging counterparts, effectively donning the hat of an institutional investor. The significance of these institutional investors cannot be understated for hedge funds, primarily because they offer a vast potential for investment.

There are primarily two categories of hedge funds, each catering to distinct investor profiles [SEC, 2013]:

- ***Section 3(c)(1), Investment Company Act of 1940***: Hedge funds cater to accredited investors and qualified clients. An accredited investor typically has a net worth of $1 million, which can encompass the value of their primary residence, or has earned $200,000 annually over the past two years. If combined with a spouse, the income should exceed $300,000 in both years, with an anticipated similar income in the present year. A qualified client, on the other hand, boasts a net worth of $1.5 million. As both qualifications are required, and the latter has a higher threshold, hedge fund managers often simplify it to say investors should meet the qualified client criteria.

- ***Section 3(c)(7), Investment Company Act of 1940***: Hedge funds are tailored for qualified purchasers. These are investors with a liquid net worth of $5 million, excluding the value of their primary residence, representing a higher financial threshold than either accredited investors or qualified clients.

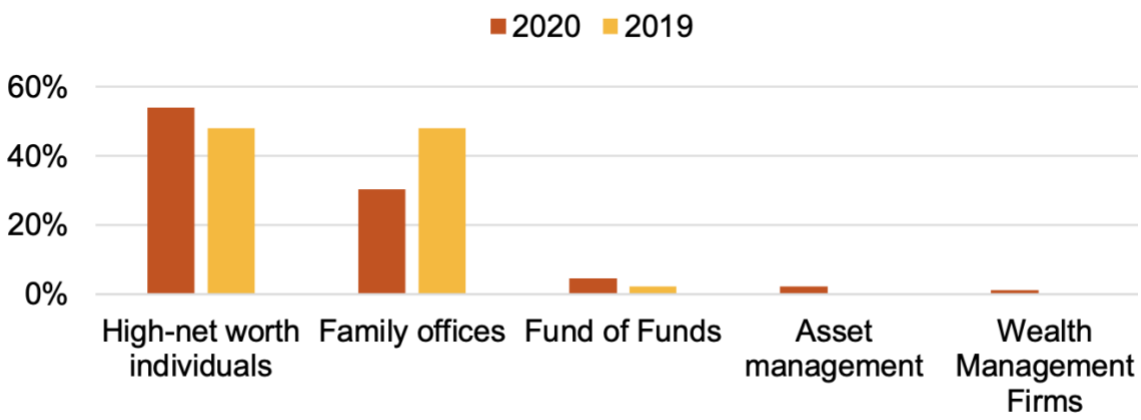
For those looking to invest in hedge funds, due diligence is crucial, given the complex nature of these funds and their relative lack of regulatory oversight. The due diligence process in hedge funds is a meticulous evaluation, seen as a critical step that investors undertake before committing their resources. This comprehensive assessment can include background checks on the entire team behind the hedge fund, from management to staff. Additionally, a thorough examination of all offering documents provided by the hedge fund, such as the fund's pitchbook, investment mandate, and performance, as well as a thorough evaluation of the company's risk management mechanisms is indispensable.

When an institutional investor shows interest, the ensuing process can often be more protracted than what individual investors might experience [KPMG, 2023]. Initial approval often comes from a managing director overseeing investments or other alternatives. Subsequent to this, the compliance department of the investor typically forwards a request for specific documentation. Such a list might include items like a brokerage agreement with the relevant hedge fund broker, signed partnership agreements, and legal opinions concerning various aspects, from the legitimacy of the interests to U.S. Federal Income Tax implications. Also, any other relevant legal opinions, contact details of partners like auditors, legal representatives, clearing brokers, and an explanation of the fund's valuation methodologies may be sought.

Furthermore, the scrutiny level of the fund's trading style and overall performance can vary based on the specific institutional investor. This might entail a deep dive into aspects of the trading program such as the kind of investments made, the execution strategies employed, the frequency of transactions, and diversification and liquidity details. Lastly, a detailed performance analysis may be requested, encapsulating periodic returns and various financial metrics such as the Beta, Alpha, Sharpe ratio, Sortino ratio, and other relevant statistical measures [Cote C., 2021].

Examining the crypto hedge fund market, we found that high-net-worth individuals (HNWIs) are the predominant investors, with over half of the funds citing them as their primary investors. Family offices rank second, making up 30%, while funds of funds trail at 4%. Even though institutions have been actively investing in cryptocurrencies, they aren't the primary backers of crypto hedge funds. Only one fund from our data set identified them as their principal investor, with HNWIs and family offices retaining the top positions. However, as institutional interest grows, the composition of the investor base is anticipated to evolve.

Figure 9: Most common investors in digital asset hedge funds



Source: PwC, 2021. 3rd Annual Global Crypto Hedge Fund Report

1.3 Strategies and Performance of Hedge Funds in Digital Assets

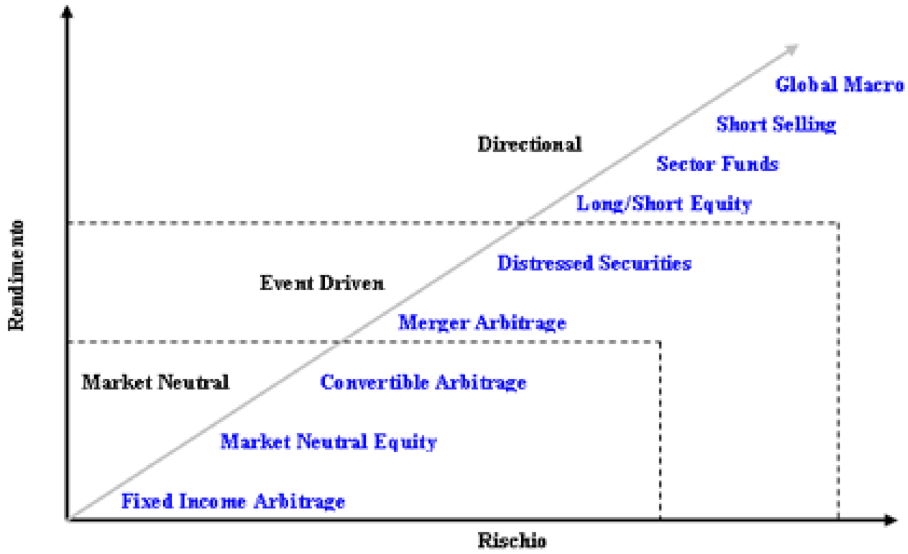
As previously mentioned, what sets hedge funds apart and unifies their underlying strategies is the pursuit of an absolute return, determined by the manager's skill in executing the chosen strategy. In other words, they aim to achieve top performance regardless of market conditions. To attain this absolute return, hedge fund managers rely on two strengths: their significant flexibility in navigating various investment classes and the use of dynamic strategies, which often involve short selling, leverage, and derivatives. The wide array of strategies adopted by hedge funds essentially stems from two different approaches that a manager can take in seeking potential market price distortions:

- ***Directional (Market Timing)***: This involves continuous investment and divestment based on predictions about the price movements of a financial instrument or the market.
- ***Non-directional***: This focuses on identifying pricing anomalies between securities.

Both investment styles can achieve an absolute return that is not market-correlated. While this is clear in the second case, in the first (Directional) case, a non-market correlated result is achieved in the long term but can be significantly correlated with market movements in the short term, especially under external market conditions. Beyond these categories, several managers use hybrid investment strategies, characterized by a mix of techniques from different investment classes, thus creating "customized" styles. Because of this, there are clear challenges when trying to classify the various strategies pursued by hedge fund managers in a universally accepted and comprehensive manner. Investment techniques are potentially endless, as the strategies undertaken by fund managers and their combinations are numerous and constantly evolving. According to statistics, which show the market shares held by the major hedge fund strategies, it's evident that the weight of strategies changes with the shifting opportunities offered by the market and in relation to the changing composition of investors. A strategy that yields high returns tends to fuel the growth in size and number of hedge funds pursuing it, both through capital growth from profits and new partner contributions, and through its increased appeal to potential new managers. Conversely, a strategy that no longer achieves past performance is gradually abandoned or undergoes a sort of transformation.

Let's now explore some of the most prevalent strategies employed by hedge funds [Stefanini F., 2006].

Figure 10: Positioning of hedge fund strategies according to risk/return profile



Source: Ansa, 2023. Strategie Investimento Hedge Fund

1. ***Directional (Opportunistic):***
    - *Long/Short Equity Funds:* Take both long and short positions in stocks to hedge against market movements (e.g. pair trades, long position vs. sector, straight short).
    - *Specialized Long/Short Equity Funds:* Focus on specific sectors or industries, such as emerging markets or natural resources.
    - *Short Selling Biased:* Primarily take short positions on stocks expected to decline.
    - *Global Derivatives:* Use derivatives to hedge or speculate on global markets (e.g. Iron Condor strategy).
2. ***Event Driven:***
    - *Risk/Merger Arbitrage:* Profit from the price discrepancies between stocks involved in mergers or acquisitions.

- *Distressed Securities:* Invest in the debt or equity of financially troubled companies.
- *Special Situation:* Target companies undergoing significant changes, such as restructurings or spin-offs.
- *Activist Shareholders:* Take significant stakes in companies and actively influence their management.

3. ***Market Neutral (Relative-Value):***
    - *Convertible Arbitrage:* Exploit price discrepancies between convertible securities and their underlying stocks (e.g. cash and carry arbitrage).
    - *Fixed-Income Arbitrage:* Profit from price discrepancies in fixed income securities.
    - *Equity-Market Neutral Funds:* Generate returns by taking long and short positions in stocks while maintaining a market-neutral stance.
    - *Statistical Arbitrage:* Exploit statistical patterns in stock prices.
    - *Fundamental Arbitrage:* Exploit pricing discrepancies based on fundamental analysis.

These are just some of the strategies implemented by hedge funds. Each strategy has its own level of risk and expected return, and hedge funds often combine multiple strategies to diversify their portfolios and manage risk.

When it comes to investing in digital assets, hedge funds may use similar strategies, but with a focus on the unique characteristics of these assets. The 5th Annual Global Crypto Hedge Fund Report by PwC provides insights into the strategies used by digital asset hedge funds. Some of the strategies commonly utilized by them are:

- ***Market Neutral (30%)***: Although declining in popularity, it remains the most widespread strategy. It involves both long and short positions to hedge against market volatility.
- ***Quantitative Long/Short Crypto (25%)***: Uses quantitative models and algorithms to identify investment opportunities in the crypto market, adopting

both long and short positions based on data-driven analysis (e.g. Alameda Research).

- ***Discretionary Long Only Crypto (14%)***: Focuses on long-term investments in cryptocurrencies based on the fund manager's discretion (e.g. Pantera Bitcoin Fund).
- ***Discretionary Long/Short Crypto (12%)***: Similar to the previous strategy, but investment decisions are based on the manager's discretion and include both long and short positions (e.g. Multicoin Capital).
- ***Fund of Funds (12%)***: Involves investing in several crypto hedge funds instead of directly investing in cryptocurrencies, allowing for diversification and risk management.

It's important to note that these strategies can vary among different digital asset hedge funds, and some funds may employ a combination of strategies. Additionally, this kind of industry is dynamic, and strategies may evolve over time in response to market conditions and emerging opportunities. Regarding these developments that may occur in the market, I want to take a few lines to explain why there are no hedge funds that use event-driven strategies. In traditional markets, event-driven strategies capitalize on pivotal moments in a company's lifecycle and its securities, such as issuances, mergers, acquisitions, and defaults. Digital assets experience similar events, but they manifest differently. Take "forks" as an example, where a protocol's software or logic is updated to add new features or desired changes. Such forks necessitate all users to transition to the updated version, abandoning the old one. Occasionally, due to technical or philosophical reasons, a significant portion of the network's users opts against updating, leading to the blockchain splitting into two concurrent alternate versions. If both versions hold value, the situation mirrors an equity spin-off. Theoretically, mergers are also feasible and can enhance value given the network economics where 2+2 exceeds 4; however, none have materialized yet. Events within the digital asset markets have paved the way for several lucrative trades, but their infrequency doesn't bolster the specialized funds seen in traditional markets.

1.3.a Success Factors: Risk Management

A crucial aspect for a manager aiming for optimal performance is determining the risk/return ratio. Risk management plays a pivotal role in a hedge fund's success, given that the risks associated with their strategies are often more intricate than those in conventional investments. While hedge funds hold the promise of high returns, several factors can potentially limit their performance. Key considerations include:

- ***Market Volatility*****:** Digital asset markets are notorious for their pronounced volatility, with prices often fluctuating rapidly in response to news and events. Such unpredictability poses challenges for hedge funds when forecasting market movements and aiming for consistent returns. Hedge funds combat this by employing diversification, risk management, and technical analysis.
- ***Regulatory Uncertainty***: The ever-changing regulatory landscape for digital assets brings about uncertainties regarding the potential influence of new regulations on the market. Such unpredictability can impede hedge funds' investment strategies and risk management. To address this, hedge funds frequently collaborate with legal and compliance experts to stay updated on regulatory changes and ensure compliance. For instance, in July 2023, the US Securities and Exchange Commission (SEC) postponed its decision on the approval of a Bitcoin exchange-traded fund (ETF) due to concerns over market manipulation and investor protection.
- ***Liquidity Risk*****:** Some digital asset markets lack liquidity, making it difficult to buy or sell assets swiftly without influencing the market price. This can hinder hedge funds from executing their investment strategies effectively. To mitigate this, hedge funds might use market making, liquidity provision, and algorithmic trading. A report by CoinGecko highlighted that the average daily trading volume for Bitcoin in June 2023 stood at $24 billion, suggesting Bitcoin's relative liquidity [Browne R. et al., 2023]. However, other digital assets might not share this liquidity.
- ***Security Risks*****:** The decentralized nature of digital assets exposes them to hacking and other security threats, potentially endangering investor assets.

Hedge funds address this by utilizing cold storage, multi-signature wallets, and undergoing security audits. A report by CipherTrace revealed that losses from cryptocurrency thefts, hacks, and fraud reached $1.9 billion in the first half of 2023, underscoring the significance of security concerns for digital asset investors [Kaal W.A., 2021].

- ***Lack of Transparency*****:** The opaque nature of digital asset markets, characterized by limited data on assets and market participants, can make due diligence challenging for hedge funds [Eichengreen B. et al., 1999]. To counter this, hedge funds might use data analysis, research, and on-chain analysis.
- ***Operational and Counterparty Risks*****:** Hedge funds face operational risks stemming from system failures or errors, which can disrupt trade execution or risk management. There's also the risk associated with counterparties defaulting on their commitments, potentially leading to losses.
- ***Reputation Risk*****:** An association with negative events or controversies can tarnish a hedge fund's reputation, impacting its investor relations. For example, in 2021, Archegos Capital Management incurred significant losses from risky trades and margin calls, affecting both the fund's reputation and that of its founder, Bill Hwang.
- ***Managerial Risk*****:** A hedge fund's performance is intrinsically linked to the expertise of its portfolio managers. The departure of key personnel or poor investment choices can adversely affect the fund's returns. In 2021, Point72 Asset Management experienced the exit of several key portfolio managers, resulting in a dip in the fund's performance.

Decentralized Finance (DeFi) marks a groundbreaking evolution in the financial landscape, enabling peer-to-peer transactions without the need for centralized intermediaries such as banks or financial institutions. While DeFi presents numerous opportunities, it also introduces distinct challenges in risk management. Hedge funds, in particular, grapple with unique risks when venturing into DeFi-related investments. For instance, the decentralized nature of digital assets can amplify security threats and concerns over transparency. Challenges like market volatility, regulatory unpredictability, and operational risks are heightened within the DeFi sector. Thus, a manager aiming for peak performance must not only recognize the potential benefits of DeFi but also understand how these risks factor into the fund's overall risk/return profile. Given DeFi's rising prominence in the investment arena, a hedge fund's ability to adeptly navigate these risks will largely dictate its triumph or downfall. Let's now delve into the most significant risks of investing in DeFi [Coinbase, 2023]:

- ***Software Risk:*** DeFi protocols, essentially online software applications, have two major software risks. The first is coding errors or "bugs," which might cause malfunctions. The second is security vulnerabilities that hackers might exploit to steal funds. For example, in 2016, the DAO attack led to the theft of over 3.6 million ether, currently worth around $60 million. Before investing, it's advisable to research the protocol's history, size, and any past security incidents [Fáwọlé J., 2023].
- ***Counterparty Risk:*** This relates to the potential failure of a loan recipient to repay. Leading DeFi lending protocols like Aave, Compound, and Maker demand over-collateralization for loans. It's crucial to understand the borrowing terms and collateralization details before investing.
- ***Token Risk***: DeFi investments require cryptocurrency tokens, each with unique risks. For instance, depositing in a Uniswap pool exposes investors to multiple tokens. Hence, it's essential to research each token's history, reputation, and backing mechanisms.
- ***Impermanent Loss***: This complex phenomenon occurs in Decentralized Exchanges (DEXs) when the values of tokens in a liquidity pool deviate from open market values. Price volatility in cryptocurrencies can cause impermanent loss, but tools like impermanent loss calculators can help evaluate potential impacts. Investing in single-token pools or dollar-pegged stablecoin pools can mitigate this risk.
- ***Gas Fees****:* Most significant DeFi protocols use Ethereum, where transaction fees, known as "gas fees," can be hefty. These fees might negate potential returns, especially if multiple transaction steps are required. While Ethereum

plans to decrease these fees, it's essential to weigh gas costs against expected investment returns.

While investing in digital assets offers potential rewards, it comes with its set of challenges. Hedge funds in this domain must adeptly navigate these challenges, adapting their strategies to the ever-changing market conditions.
In addition to these risks, unexpected events can also impact the performance of digital asset hedge funds. Here are some significant events in 2023 and previous years that have influenced hedge fund performance:

- China's Cryptocurrency Ban (2021): China prohibited financial entities from offering cryptocurrency services, causing a major decline in Bitcoin and other digital asset values [BBC, 2021].
- FTX Collapse (2022): The world's second-largest crypto exchange, FTX, collapsed in November 2022, resulting in substantial investor losses [Pannone A., 2022].
- Terra-Luna Halt (2022): The Terra (LUNA) blockchain's suspension in May 2022 significantly reduced its cryptocurrency value [Q.ai, 2022].
- Elon Musk's Influence (2022): Musk's tweets about digital assets in 2021 led to considerable market volatility [Shahzad S.J.H. et al., 2022].
- Institutional Adoption (2023): A PwC report showed a rise in crypto hedge funds from 34 in 2020 to 110 in 2021, with assets under management doubling from $2 billion to $4 billion in the period 2019-2021 [PwC, 2022].
- Cybersecurity Breach (2023): A $600 million hack on the Poly Network cryptocurrency exchange affected hedge funds invested in cryptocurrencies [Young M., 2023].

Overall, digital asset hedge funds are exposed to various risks and unexpected events that can impact their performance, both positively and negatively. By implementing appropriate risk management strategies and staying up to date on market developments, hedge funds can potentially mitigate these risks and generate attractive returns for their investors.

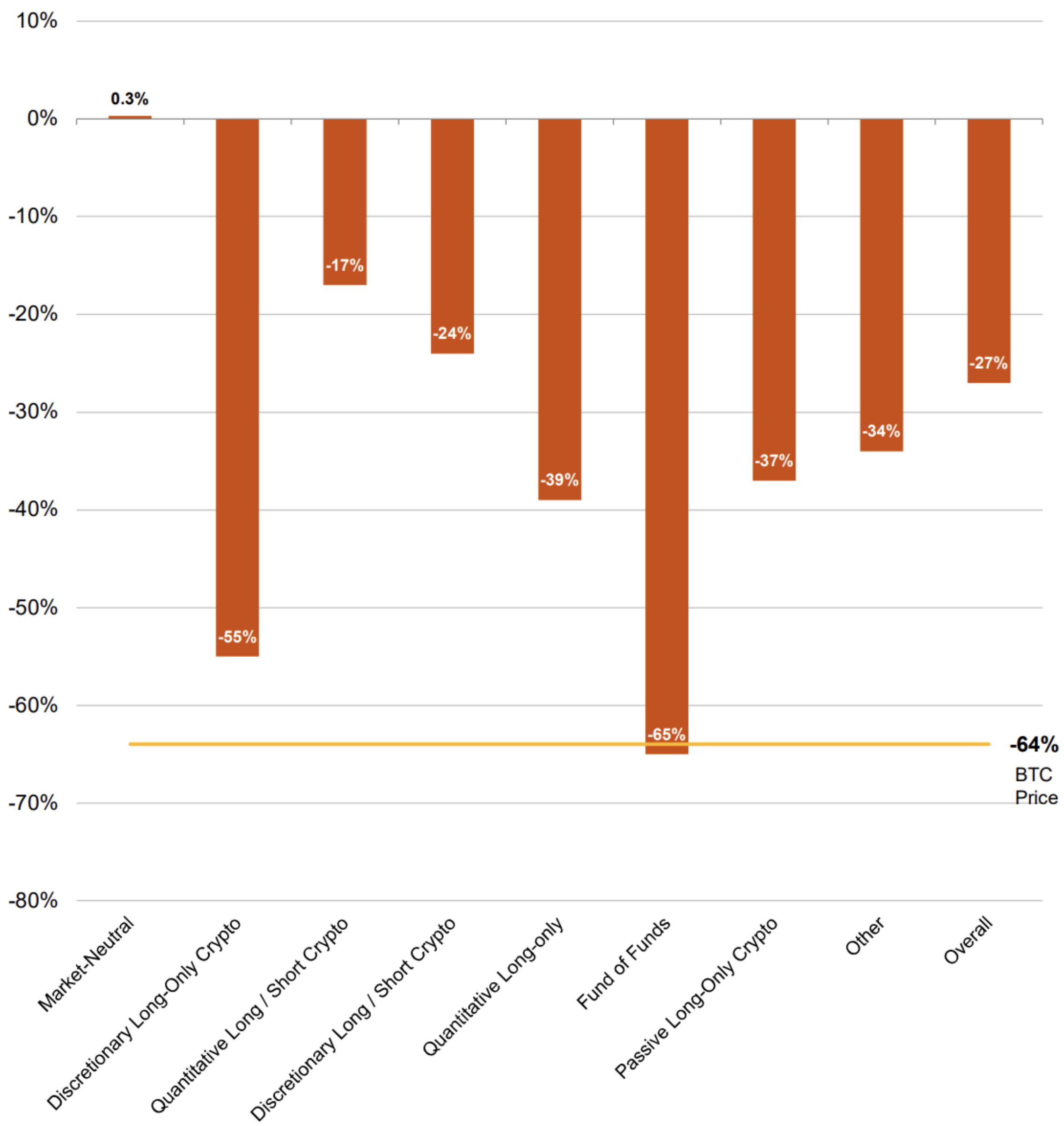
1.3.b Comparing Strategy Performances

Reliable estimates of the overall size of the digital asset hedge funds universe and their performance are hard to obtain due to multiple databases, each with its unique data collection and minimal overlap. This discrepancy is heightened by the industry's high confidentiality; hedge funds often avoid disclosing their returns for fear of strategy replication or negative publicity. Typically, funds with positive returns are more inclined to contribute to these databases. However, the different definitions of hedge funds and the voluntary nature of data contribution lead to significant discrepancies.

Another aspect of hedge funds is monitoring through databases and their indices. Over recent decades, numerous index providers have emerged, such as Hedge Funds Research (HFR) and Van Hedge Fund Advisors (VHFA), but none are universally recognized as representative of the industry due to significant biases like backfill bias, survivorship bias, and end-of-life bias [Fung W. et al., 2001]. These biases stem from various factors, such as the voluntary inclusion of funds in databases and the tendency to include more successful funds. Backfill bias occurs when fund managers start publishing their results only later on, likely when performance is positive. Survivorship bias reflects only the returns of existing funds, with many hedge funds having a short lifespan. Some funds may decide to suspend the publication of their returns to avoid new investors. End-of-life bias pertains to hedge funds facing difficulties and often stop publishing particularly negative returns before their liquidation.
Lastly, an important aspect to consider regarding the availability of performance of digital assets is that, unlike traditional hedge funds, many of these digital assets are traded on decentralised platforms (DEX) such as Uniswap or dYdX, and are not subject to the same regulation and disclosure of returns. This can make it more difficult to obtain accurate and reliable information on the performance of these assets. This is why the following considerations will be extrapolated from surveys and reports and on-chain analysis of crypto data.

The overall strategy performance of digital asset hedge funds is measured against the 64% decline in BTC price from December 31, 2021, to December 31, 2022. Although most strategies recorded a downturn over the year, except for Market Neutral, the bulk of crypto hedge funds outperformed BTC's price. A significant 93% of participants anticipate the total market capitalization of crypto-assets to surpass its 2022 year-end value by the close of 2023. This optimism underscores their faith in the industry's future and the asset category, even in light of the previous year's challenges, highlighting their long-term perspective [PwC, 2023].

Figure 11: Fund performance by strategy

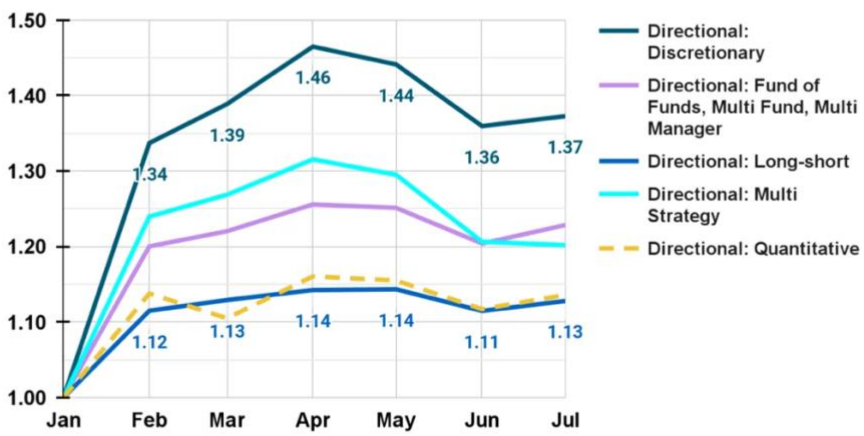


Source: PwC, 2023. 5th Annual Global Crypto Hedge Fund Report

While bitcoin (BTC) and ether (ETH) frequently dominate media attention, significant investments have been made in altcoins, which encompass all crypto-assets other than BTC and ETH. Solana (SOL) remains the most actively traded altcoin, despite a decline from 56% to 45% over the past year. Meanwhile, Polygon (MATIC) and Uniswap (UNI) accounted for 42% and 39% of this year's trades, showing stability year-over-year. Given the popularity of these digital assets, it's unsurprising that Ethereum continues to lead in the Layer 1 (L1) blockchain domain with a Total Value Locked (TVL) of $32 billion. For context, the runner-up L1 has a TVL of $5.1 billion. Ethereum's preeminence was further solidified after its smooth transition from Proof of Work to Proof of Stake in September 2022, a move that, thanks to network enhancements, considerably reduced energy concerns and boosted its scalability.

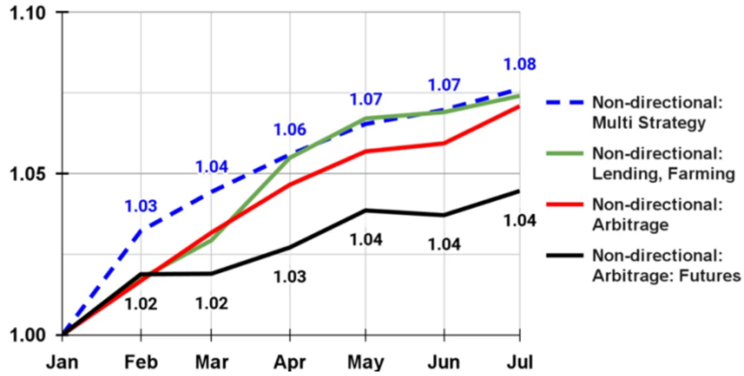
Instead, examining the performance shift from 2022 to the first half of 2023, we notice a distinct scenario underscoring the market's volatility. While directional funds performed commendably in the first half of 2023, they fell short when compared to Bitcoin [Sporer J., 2023]. For instance, Bitcoin's value soared by around 40% in January, nearly doubling the gains of digital asset funds. Although funds paralleled Bitcoin's stagnant performance in February, they trailed in March. In that month, Bitcoin grew by 23%, while directional digital asset funds registered a mere 4% rise.

Figure 12: Performance Comparison in 1H2023 Directional Digital Asset Fund Strategies



Source: Crypto Fund Research, 2023. 2023 Q1 Crypto Fund Report

Figure 13: Performance Comparisons in 1H2023 Non-Directional Digital Asset Fund Strategies



Source: Source: Crypto Fund Research, 2023. 2023 Q1 Crypto Fund Report

Directional funds notably surpassed non-directional counterparts. Quantitative funds grappled with challenges stemming from market unpredictability and erratic market movements, impacting their algorithms. Regulatory uncertainties with key banking partners and fund administrators caused many funds to decelerate operations. In contrast, discretionary digital asset funds, a dominant sub-strategy among directional funds, remained unaffected. Their streamlined administrative and banking processes ensured they stayed on course without distractions like scouting for new banking affiliations.

A straightforward buy-and-hold strategy in Bitcoin would have eclipsed the majority of fund strategies. Digital asset funds typically use cash as their foundational currency, accepting subscriptions in either fiat or fiat-backed stablecoins. This arrangement often leads to asset liquidation for redemptions, resulting in temporary cash positions. To counteract risks, these funds frequently enhance their cash buffers. As a result, during a bull market, funds with significant cash assets often underperform against Bitcoin, unless their other assets deliver exceptional returns [Bruckner M., 2023].

CHAPTER 2

The Regulatory Landscape of Hedge Funds

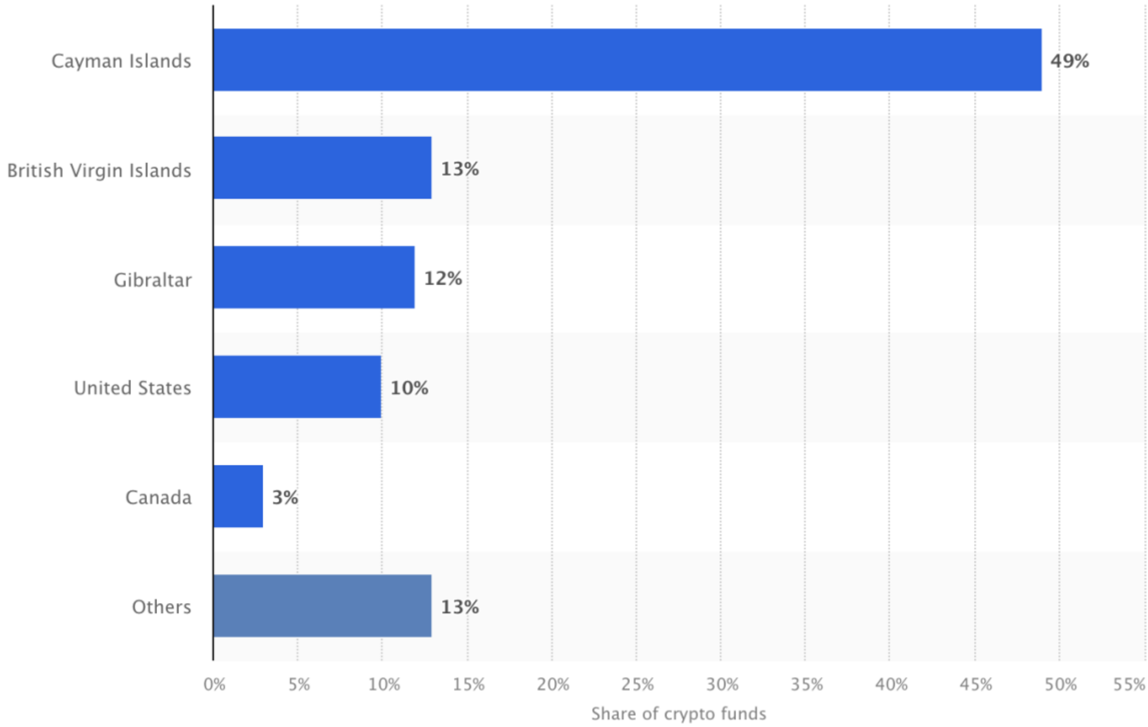
Regulation is a critical aspect of hedge fund investing, and it is essential to understand the regulatory framework for hedge funds investing in digital assets. This chapter will provide an overview of the international regulatory context for hedge funds and analyze the specific regulations for hedge funds investing in digital assets. It will also analyze the legal risks and regulatory challenges that hedge funds investing in digital assets face in countries such as the United States, Cayman Islands, British Virgin Islands, and Gibraltar.

More than half of the digital asset funds are located in North America, mainly in the United States. Europe and Asia each host about 20% of these funds. Interestingly, digital asset funds are more inclined to have spread-out teams compared to conventional funds. A 2021 study by Crypto Fund Research revealed that 27% of these funds don't have a physical office, with their staff working remotely from various global locations [Crypto Fund Research, 2021]. Although the US is the main office location for most of these funds, under 20% are officially based there, like being registered as a Delaware company. Due to tax, legal, and regulatory advantages, the Cayman Islands and the British Virgin Islands are the top offshore legal bases for digital asset funds, housing 62% of them.

The Cayman Islands remains the leading choice for crypto hedge funds' base, with the British Virgin Islands now surpassing the U.S. to become the second favorite. The market share for the Cayman Islands grew from 48% to 49%, and for the British Virgin Islands, it increased from 11% to 13%. Gibraltar also moved ahead of the U.S., even though they both saw a decrease in market share to 12% and 10% from 13% and 46% the previous year, respectively.

The top reasons given for the choice of location for digital asset hedge funds were being 'crypto friendly' (22%), regulatory considerations (20%), and 'fund-friendly' regulations (17%). This aligns with the general sentiment, as many governments are still undecided or not very welcoming towards the crypto sector. The feedback indicates that these funds prefer places with stable regulations, allowing them to concentrate on investments [PwC, 2022].

Figure 14: Leading locations of crypto hedge fund

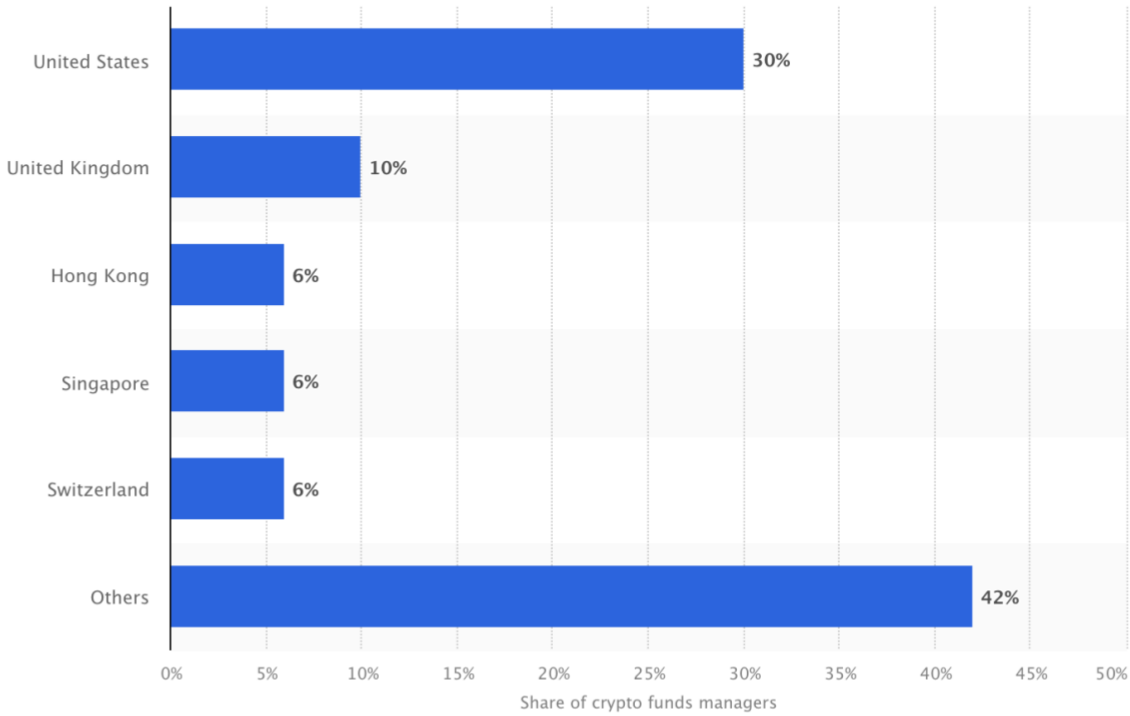


Source: PwC, 2022. 4th Annual Global Crypto Hedge Fund Report

Leaving the domicile aside for a moment, as of the first quarter of 2022, the U.S. and the U.K. are still the main locations for crypto hedge fund managers, accounting for 30% and 10% respectively. Singapore, Switzerland, and Hong Kong are now tied in third place, each hosting 6% of these managers (Figure 15).

In the upcoming chapter, we will explore how managers are evaluating the option of the United Arab Emirates, particularly in light of geopolitical developments like the BRICS and the UAE's integration into this major economic powerhouse.

Figure 15: Leading locations of digital asset hedge fund managers



Source: PwC, 2022. 4th Annual Global Crypto Hedge Fund Report

2.1. The Regulatory Framework for Hedge Funds

Let's explore the regulations and requirements that hedge funds face, especially in the context of US common law, which is often referenced by domiciliary havens and the majority of fund managers.

A consistent, global approach to hedge fund manager registration requirements and an industry-standard set of self-regulatory best practices form the foundation of an effective regulatory framework for hedge funds. Prudential oversight of regulated financial counterparties, such as prime brokers and banks, provides supervisory authorities with the information they need to monitor the build-up of risks at the level of the funds. Coordination, cooperation, and sharing of information between regulators further strengthen the effectiveness of the supervisory framework. Hedge funds are subject to the same trading reporting and record-keeping requirements as other investors in publicly traded securities. They are also subject to a number of additional restrictions and regulations, including a limit on the number and type of investors that each fund may have.

Before delving into the regulations governing hedge funds in the Cayman Islands, the British Virgin Islands, and Gibraltar, let's take a look at the United States. The framework in the US is similar because both the US and these islands operate under common law. Additionally, it's important to note that there are Memoranda of Understanding (MOUs) in place between these various jurisdictions. The MOUs facilitate mutual assistance in the supervision and oversight of regulated entities that operate on a cross-border basis between the countries.

Specifically, the US regulatory framework is designed to ensure investor protection and maintain the stability of financial markets. The regulatory framework for hedge funds in the US is part of a broader system of collective investment management regulation . The Investment Company Act and the Investment Advisers Act of 1940 are two key pieces of legislation that govern the management of collective investment vehicles, including hedge funds. The Dodd-Frank Wall Street Reform Act and Consumer Protection Act of 2010 also granted the Securities and Exchange Commission (SEC) authority to adjust net worth and income standards for individuals [CFA Institute, 2023].

One of the key aspects of the regulatory landscape for hedge funds in the US is investor eligibility. Hedge funds are subject to certain restrictions on the number and type of investors they can have. Under Regulation D of the Securities Act of 1933, hedge funds can only raise capital through non-public offerings and from "accredited investors". Accredited investors are individuals with a minimum net worth of $1,000,000 or a minimum income of $200,000 in each of the last two years, with a reasonable expectation of reaching the same income level in the current year. Banks and corporate entities must have also a minimum of $5,000,000 in total assets [CFA Institute, 2023].

Another important aspect of the regulatory framework for hedge funds in the US is trading reporting and record-keeping. Hedge funds are required to comply with the same trading reporting and record-keeping requirements as other investors in publicly traded securities. This is designed to ensure transparency and prevent fraud.

Hedge funds are also subject to additional restrictions and regulations under the Securities Act of 1933 and the Securities Exchange Act of 1934. They are prohibited from making public offerings and are subject to anti-fraud provisions. This is designed to protect investors from fraudulent activities. Many hedge funds operating in the US are also regulated by the Commodity Futures Trading Commission (CFTC). Hedge fund advisers registered as Commodity Pool Operators (CPO) and Commodity Trading Advisors (CTA) fall under the purview of the CFTC.

Furthermore, hedge funds are subject to certain provisions of the Investment Company Act of 1940. For example, larger hedge funds may have to meet heightened "qualified purchaser" standards, which require individuals to have $5,000,000 in investments and companies and pension plans to have $25,000,000 in investments. This is designed to ensure that larger hedge funds are subject to appropriate oversight and regulation.
With reference to the statutory forms, hedge funds mainly use the Limited Liability Company (LLC). However, it should be noted that even though these funds are designed based on corporate models, they deviate so much from the aforementioned models that they can be considered companies only in form (“common law trust with a few peripheral statutory corporate attributes” or “trust in corporate clothing”). It is enough to think that the duties and responsibilities of the administrators, who must act in the exclusive interest of the investors, are very close to those of the trustees, even though the company owns the assets. Therefore, in conclusion, in the U.S. system, as is the case in some member states of the European Union, the two different forms - contractual and statutory - seem to be linked from a functional point of view.

Overall, the regulatory framework for hedge funds in the US aims to strike a balance between investor protection and allowing hedge funds to operate with flexibility and efficiency in financial markets. The regulations are designed to ensure transparency, prevent fraud, and maintain the stability of the financial system. While the regulatory landscape is complex and subject to periodic updates and changes, it is an important aspect of the US financial system.

2.1.a Hedge Fund Offering Documents

Hedge fund lawyers play a crucial role in drafting the necessary documents to initiate the fund and handle regulatory paperwork. These documents are known as Hedge Fund Offering Documents, essential for initiating a hedge fund and ensuring regulatory compliance, and they include:

1. ***Private Placement Memorandum (PPM)*****:** A PPM is a securities disclosure document used in a private offering of securities by a private placement issuer or an investment fund [Capital Fund Law Group, 2023]. It is a document that offers investors crucial details about the fund, aiding them in making informed investment choices. It presents specifics about the fund's terms, investment structure, manager backgrounds, and other disclosure matters. A well-prepared PPM will contain several recognizable sections, some of which have greater importance than others. The following are among the key sections of a PPM: executive summary; risk factors; use of proceeds; business plan; management team; offering terms; subscription procedures; financial statements; exhibits.
2. ***Limited Partnership Agreement*****:** This is the fund's primary legal document. It delineates the fund's terms and the rights of both investors and the fund manager [Capital Fund Law Group, 2023]. It includes: the roles and activities of the general partner; detailed fee structures and expenses; profit allocation and distribution methods; withdrawal terms and conditions; power of attorney designation for the fund manage.
3. ***Subscription Agreement*****:** This agreement outlines the process for investors to acquire limited partnership stakes in the fund. It also provides the fund managers with information about the investor's eligibility. This contract specifies the investment amount and terms. It also requires investors to confirm their eligibility, such as being an "accredited investor" or "qualified client" as per regulations.
4. ***Investment Management Agreement*****:** This contract is between the fund and the investment management company. It outlines the services the fund manager will

offer and grants them authority over the fund's assets. This agreement typically has the same signatories on both sides, as the fund and its manager are often overseen by the same individuals.

5. ***Management Company Operating Agreement*****:** This legal document defines the rights of the fund's founders. It details how the fund's ownership is split among its principals. This agreement's specifics are not shared with investors.
6. ***Regulatory Filings*****:** Beyond the primary documents, hedge fund lawyers will also draft necessary filings for regulatory bodies, including Form D and, in some instances, investment advisor and CFTC registrations. Form D is a notice of an exempt offering of securities under Regulation D of the Securities Act of 1933. It is a required filing with the SEC and state securities regulators for companies that sell securities in private placements under Regulation D [Martindale, 2020].

2.1.b Legal Challenges of Hedge Funds in Digital Assets

Specific regulation for digital asset hedge funds in the US is conducted at two levels: the issuer-level and the adviser-level, with the classification of digital assets playing a key role in determining the regulatory body responsible for oversight [Capital Fund Law Group, 2023]:

1. ***Issuer-Level Regulation*****:** The US Securities Act, in conjunction with corresponding state laws, governs investments into the fund, taking into account the domicile of individual investors. Regardless of the fund's intended portfolio asset classification or the location and jurisdiction of its vehicle and managers, these investments fall under the umbrella of private securities offerings as per US law. It's noteworthy that when we look at the landscape of digital asset funds, they closely mirror the structure and nuances of traditional hedge funds at the issuer level.
2. ***Adviser-Level Regulation*****:** Based on the classification of portfolio assets as either securities or commodities, managers fall under the regulatory purview of the SEC, CFTC, or sometimes neither. Notably, hedge fund managers overseeing less than $150 million in assets are granted an exemption from SEC registration. This exemption threshold further narrows to $100 million if

they exclusively manage private funds. In the past, the SEC had categorized digital assets as securities within its hedge fund regulations, introducing them to a broader set of rules. Yet, in a significant move in 2023, the SEC revised its stance, removing digital assets from the hedge fund rule and, in doing so, eliminating what would have been its inaugural formal definition of a "digital asset" in its most recent hedge fund regulation.

In addition to SEC oversight, digital asset hedge funds may also be subject to anti-money laundering (AML) and know-your-customer (KYC) regulations [Congressional Research Service, 2021]. These regulations aim to prevent money laundering and require financial institutions, including hedge funds, to verify the identity of their clients and report suspicious activities. Compliance with AML and KYC regulations helps ensure the integrity of the financial system and prevent illicit activities.

Given the nature of digital assets, custody, and security measures are of utmost importance for digital asset hedge funds. Regulators may require these funds to implement robust security protocols to protect investors' assets from theft or unauthorized access. This may include the use of cold storage wallets, multi-signature authentication, and regular security audits [Donoghue R.P., 2023].

Regarding the organizational structure, digital asset hedge funds often adopt an offshore master-feeder structure. In this arrangement, the master fund is usually situated in a tax-neutral jurisdiction, such as Cayman or British Virgin Islands, whereas the feeder fund finds its home in the US. This design not only facilitates US investors in channeling their investments into the offshore fund via the feeder fund but also brings about tax advantages for the fund itself.

When discussing risks and regulations related to this type of hedge fund, it's important to highlight the exposure to DeFi. This approach remains compliant with AML perspectives when the fund acquires tokens in a primary DeFi protocol sale or trades DeFi tokens through a centralized venue implementing comprehensive KYC. However, challenges arise when the fund engages with a DeFi protocol lacking user checks.

Though anti-money laundering regulations don't mandate hedge fund managers to perform due diligence on counterparts, they must still mitigate the risk of financial crime exposure. SEC regulations may require the implementation of systems and controls for this purpose. This generally involves understanding transaction partners. Given that DeFi protocols often lack such facilitation, conducting user due diligence becomes improbable.

The popularity of digital asset hedge funds operating on DEX within DeFi has steadily grown. Notably, dYdX and PancakeSwap gained traction among cryptocurrency hedge funds, accounting for 5% and 2% of activity last year, respectively. However, Uniswap remains the most favored DEX, soaring from 20% usage last year to 75% this year, per a PWC report [PwC, 2023]. Nonetheless, DeFi protocols function with minimal government oversight, raising concerns about potential fraud and illicit activities, and highlighting the need for regulatory clarity. The SEC is shifting toward DeFi oversight by revisiting a proposal from the prior year [De N., 2023]. This proposal asserts that protocols, acting as communication systems for securities trading, resemble exchanges enough to warrant regulation. The SEC's move to incorporate DeFi into this proposal underscores the broader application of regulations to the crypto financial sector.

However, it's worth noting that the DeFi Education Fund, a lobbying group, expressed concern that this proposal might inadvertently restrict DeFi activities in the United States. It's important to remember that DeFi protocols aren't impervious to risks, and investors should conduct thorough due diligence before engaging with DeFi hedge funds.

2.2 International Regulatory Overview

In recent years, the ascendancy of digital assets and blockchain technology has been unmistakably evident. Foremost offshore financial epicenters, notably the Cayman Islands, British Virgin Islands (BVI), and Gibraltar, have adeptly positioned themselves as quintessential jurisdictions for the intricate structuring of this burgeoning and sophisticated industry. They derived from English common law and supplemented by local legislation, ensures that each country's investment funds are structured as internationally accepted vehicles. Despite the vicissitudes in the digital asset market, the vast and multifaceted potentialities of blockchain technology persistently propel avant-

garde initiatives to these territories in pursuit of tailor-made structuring solutions. This discourse elucidates the digital asset milieu within these pivotal jurisdictions.
Historically, the Cayman Islands and the BVI have been esteemed as the crème de la crème for an array of commercial and investment architectures [Page C., 2022]. These jurisdictions proffer a plethora of salient advantages that seamlessly dovetail with the exigencies of the digital asset realm, especially when one contemplates the inherently global and decentralized nature of myriad ventures within this domain. Their illustrious track records, judicious regulations, fiscal neutrality, and crypto-affable stance are incontrovertible. Among these manifold benefits are:

- Tax-neutral jurisdictions (following the abolition in 1985 of an annual head tax), which means that they do not impose direct personal, corporate, or property taxes.
- Robust legislative and judicial frameworks rooted in the venerable principles of English common law.
- Governments that are both stable and possess a sagacious commercial acumen.
- Adaptable corporate infrastructures.
- A cadre of seasoned and agile professional advisory and ancillary services.

Funds can be meticulously crafted as corporate entities, encompassing limited liability conglomerates, segregated portfolio entities facilitating discrete asset and liability pools, limited partnerships, or unit trusts, contingent upon the distinct requisites or predilections of diverse investor cohorts. While these territories exhibit a confluence of strengths and frequently serve as a comprehensive nexus, they have also meticulously crafted their distinct specializations. The specific characteristics of each jurisdiction will be proposed below.

2.2.a The Cayman Islands

As mentioned above, the Cayman Islands is a popular location for the establishment of offshore hedge funds, including those that invest in digital assets such as Pantera Bitcoin Fund. It is the main hub for investment funds, attracting 80% of all new offshore funds, of which some 27% are master-feeder funds. It's believed that over 75% of global offshore hedge funds reside in Cayman, managing close to half of the industry's estimated US$1.1

trillion in assets [Lindemann Law, 2023]. The jurisdiction offers a range of benefits that align with the needs of the digital asset industry, including a tax-neutral platform, stable economy, sophisticated banking sector, confidentiality, and professional financial service industry [Ridley T., 2007]. The allure of the Cayman Islands for offshore funds has been amplified with the inception of the Cayman Islands Stock Exchange (CSX), facilitating funds to secure listing status when necessary.

Hedge funds in the Cayman Islands are typically structured as exempted companies, but the actual fund vehicle used may depend on the particular needs or preferences of different types of investors. The minimum initial subscription by an investor for hedge funds in the Cayman Islands is usually not less than CI$80,000 (approximately US$100,000), and they are usually regulated as a "registered" fund by the Cayman Islands Monetary Authority (CIMA). The Mutual Funds Act of the Cayman Islands regulates open-ended funds, including hedge funds, that are registered with CIMA. While there are no restrictions imposed in terms of strategy with Cayman funds, they are required to comply with the anti-money laundering regulations.

The Cayman Islands and the United States have a Memorandum of Understanding (MOU) that facilitates mutual assistance in the supervision and oversight of regulated entities that operate on a cross-border basis in the United States and the Cayman Islands [SEC, 2012]. The Cayman Islands Monetary Authority (CIMA) is responsible for the regulation and supervision of the financial services industry in the Cayman Islands, including hedge funds. CIMA is also responsible for the registration and regulation of hedge funds, and has established a regulatory framework for the registration of digital asset funds [Harneys, 2023].

The Cayman Islands is a preferred destination for the establishment of diverse digital asset frameworks, encompassing crypto investment funds, ICOs (Initial Coin Offerings), and exchanges. A notable feature is the Foundation Company, introduced in 2017. Distinctive among offshore jurisdictions, this structure operates without traditional members and ownership, catering perfectly to DAOs that eschew conventional ownership models. DAOs, entities that leverage smart contracts for transaction settlements with their emphasis on democratic governance, are often steered by specific communities, such as cryptocurrency token-holders. Given their unincorporated status, their legal standing can be nebulous. Yet, with the rise of blockchain technology, there's a growing trend among DAOs to adopt legal structures, enabling them to engage with stakeholders and undertake roles that necessitate legal recognition. The Cayman Foundations, perceived as a fusion of trusts and corporations, are increasingly chosen for these entities due to their flexibility and resonance with non-profit goals.

Lastly, the Cayman Islands demonstrates a steadfast dedication to nurturing virtual asset enterprises. The Virtual Asset (Service Providers) Act 2020 (VASPA) provides a comprehensive regulatory landscape for virtual asset service providers, encompassing facets like exchanges, transfers, and custody services. This nascent legislation underscores the Cayman Islands' stature as a premier locale for FinTech initiatives and operations [Cayman Islands Monetary Authority Law, 2020].

2.2.b British Virgin Islands: A Closer Look

The BVI is a well-established offshore jurisdiction for hedge funds, with a regulatory regime that is both flexible and accommodating to the needs of fund sponsors and investors. The jurisdiction is particularly attractive for hedge funds investing in digital assets (e.g. Block.one Fund) due to its favorable regulatory environment and low costs.

The regulatory authority responsible for overseeing and regulating hedge funds in the BVI is the Financial Services Commission (FSC). The FSC is responsible for ensuring that hedge funds operating in the jurisdiction comply with the relevant laws and regulations, including the Securities and Investment Business Act 2010 (SIBA) [British Virgin Islands Financial Services Commission, 2020].

Professional Funds are unrestricted in terms of assets under management and investor count. Nonetheless, they are exclusively available to professional investors, with a starting investment threshold set at US$100,000, barring exempted investors, defined by SIBA as the manager, administrator, promoter, or underwriter of the fund. While it's typical for an offering memorandum to be drafted, the FSC can waive the need for the fund to create and submit such a document if it deems the alternative communication methods for potential investors satisfactory [Page C., 2022].

Hedge funds in the BVI can be structured as business companies, partnerships, unit trusts, or segregated portfolio companies (SPCs). SPCs are a popular choice for hedge funds investing in digital assets, as they allow for the segregation of assets and liabilities between different portfolios within a single legal entity. This can help to mitigate risk and provide greater protection for investors.

Furthermore, the British Virgin Islands (BVI) offers a popular structure for investors, especially in Asia, to establish offshore funds. Many stakeholders, including general and limited partners, increasingly use trusts, such as the BVI VISTA trust, especially for asset protection. The BVI VISTA trust allows for direct ownership of shares in a BVI company, which can then invest in various assets, including offshore funds and digital assets. Unique to VISTA is its flexibility, allowing company directors to operate without constant trustee oversight and enabling family members to maintain control through board participation and the role of an Office of Director Rules Appointor. This structure ensures confidentiality, with only the trustee being publicly associated with the company [Harneys, 2023].

The BVI offers also a fast-track procedure for professional fund approval, which streamlines the process of establishing a hedge fund. This can be particularly beneficial for hedge funds investing in digital assets, as it allows them to get up and running quickly and efficiently.
This jurisdiction has also a category of funds called Private Funds, which are mutual funds with a maximum of 50 investors or that make invitations to subscribe on a "private basis" only. Private Funds are subject to less stringent regulatory requirements than other types of hedge funds, making them an attractive option for smaller fund groups. The regulatory regime for hedge funds in the BVI is flexible and offers alternative regulatory regimes for small to mid-sized hedge fund groups.

In addition to its favorable regulatory environment, the BVI offers several benefits for hedge fund sponsors and investors. These include low start-up and ongoing fees and costs, a range of professional service providers, and a variety of fund vehicle options. The jurisdiction is also known for its political and economic stability, which can provide greater certainty and security for investors.

2.2.c Gibraltar: A Unique Case

Before delving into the regulatory details, let's briefly explore Gibraltar's political history. Gibraltar joined the European Union in 1973 following the UK's accession to the EU, sharing fundamental legal structures and the common law system with the Land of Albion. This was in accordance with Article 299 Section 4 (formerly Section 227) of the Treaty establishing the European Community. This article extends the Treaty's provisions to "European territories for whose external relations a Member State is responsible." Since Gibraltar's EU membership stems from the UK's affiliation, it is mandated to implement EU directives on financial services and other areas, such as anti-money laundering. This EU status sets Gibraltar politically apart from Guernsey, Jersey, or the Isle of Man, which, under Article 299 Section 6 lit c) of the Treaty, do not have the same EU membership status.

Gibraltar, as a jurisdiction, is renowned for its entrepreneurial spirit and innovative prowess. A recent PwC and Elwood Asset Management report ranked Gibraltar third in popularity for digital asset fund domiciliation. The trend of funds, especially digital asset funds, choosing Gibraltar is on the rise, further boosted by the upcoming dual-regime introduction. While the Cayman Islands and BVI have long been dominant players in the market for fund establishment, Gibraltar is now gaining significant market share.

The jurisdiction offers a favorable regulatory environment, robust infrastructure, and a supportive ecosystem for hedge funds. In this chapter, we will delve into the regulation and advantages of hedge funds investing in digital assets in Gibraltar, such as Chachi Crypto Fund Limited, exploring the key factors that have contributed to its success in this area.

By 2018, while global regulators were still navigating the crypto and DLT landscape, Gibraltar had already established a regulatory framework for DLT providers. The Gibraltar Financial Services Commission (GFSC) and the local industry were well-versed in the sector. Hedge funds operating in Gibraltar must comply with the regulatory framework set by the GFSC. They are required to be licensed and authorized as collective investment schemes under the Financial Services (Collective Investment Schemes) Act 2005 [Majcen R., 2008]. This ensures that these funds adhere to the necessary standards and safeguards, providing investor protection and maintaining market integrity.

Notably, Due to regulatory risks associated with digital asset funds, the Gibraltar Funds and Investments Association (GFIA) suggests regulating them as Experienced Investor Funds by the GFSC. Crypto EIFs must transparently detail their valuation methods in their offering memorandum. These funds can either be managed by third-party investment managers or self-managed. Additionally, Crypto EIFs can be structured as protected cell companies (PCCs), allowing for the creation of sub-funds with statutorily separated assets and liabilities [HM Government of Gibraltar, 2023].

A unique selling point for Gibraltar is its quick market entry. The EIF's post-launch notification process, which requires notifying the GFSC within 10 days of launch, is popular due to its regulatory certainty. EIFs, primarily targeting high-net-worth individuals and institutional investors, have no borrowing limits and cater to experienced investors [Gibraltar Financial Services Commission, 2018].

Digital asset funds in Gibraltar often allow transactions in cryptocurrencies, especially USDT. Some funds exclusively trade in crypto, while others collaborate with local banks that support crypto transactions. This banking support is a unique advantage for Gibraltar, given the challenges crypto transactions face elsewhere. Furthermore, Gibraltar's tax benefits, including no capital gains or withholding tax, ensure that a well-structured fund remains tax-neutral.

A very interesting point that makes this jurisdiction peculiar is the access to European and Global Markets: Gibraltar's strategic location at the crossroads of Europe and Africa offers hedge funds easy access to both European and global markets. The jurisdiction's membership in the European Union (EU) until Brexit and its continued access to the EU market through the Gibraltar-EU relationship provide hedge funds with a gateway to the broader European market. This access to a large and diverse investor base enhances the growth potential and market opportunities for hedge funds investing in digital assets. Then, Brexit did not impact Gibraltar's EIF and private scheme regulations, as they are domestic laws. The local industry, GFSC, and government are working towards a dual regime for investment funds, allowing them to opt out of AIFMD provisions [Jay G. et al., 2022].

Lastly, Gibraltar's legal framework allows hedge funds initially established in other jurisdictions to relocate to Gibraltar without the necessity to renegotiate all existing contracts and agreements related to the units. This means that offshore funds set up in Caribbean regions can transition into the EU. These funds retain their legal structure and are registered in Gibraltar by continuation under its laws. If there's a substantial European investor base, a European offshore entity might be more fitting than a Caribbean one. It's worth noting that foreign funds set up as investment partnerships or unit trusts aren't eligible for such redomiciliation as companies. Instead, they would need to be newly established in Gibraltar, either as a new partnership or unit trust.

2.2.d Jurisdictional Comparisons

To conclude the chapter on hedge fund regulation, we would now like to propose a comparison of the previously analysed paradise jurisdictions.
Cayman Islands, British Virgin Islands and Gibraltar, stand as prominent offshore jurisdictions, each with its unique attributes that can sway the decision-making process for offshore endeavors, including hedge fund investments in digital assets [Harneys, 2022]:

- ***Cost Efficiency***: Incorporation in the BVI is notably more cost-effective than in the Cayman Islands or Gibraltar.
- ***Regulatory Landscape***: All territories mandate the auditing of investment funds. However, while the BVI permits international audits, Cayman Islands

and Gibraltar necessitates local-level auditing for companies involved in funds. Additionally, the BVI enforces more rigorous regulations safeguarding shareholder and director information.

- ***Incorporation Speed***: Gibraltar and BVI offer a swifter company incorporation process.
- ***Industry Reputation***: The Cayman Islands boasts a mature jurisdiction, ensuring access to expertise and proficiency for a vast array of financial business operations. For over three decades, this country has consistently demonstrated success in its funds industry.
- ***Security Registration***: The BVI operates a public security registration system. In contrast, security interests granted by a Cayman company remain private matters [Attorneys L.S., 2022].
- ***Access to European and Global Markets***: Gibraltar's strategic location and its relationship with the EU provide hedge funds with a gateway to the broader European market, enhancing growth potential and market opportunities.

Finally, concerning the locations of digital asset hedge fund managers, there may soon be a paradigm shift away from traditional locations like the US, which, as mentioned at the beginning of the chapters, is currently the most established.

On June 12, 2023, AIMA released an article discussing the jurisdictional preferences of digital asset entities [AIMA, 2023]. 90% of survey participants emphasized the importance of the regulatory framework, while 84% highlighted the service provider ecosystem as crucial. Most UK-based entities are looking to expand their presence, with the UAE and Singapore emerging as the main jurisdictional choices for entities with roots in the US or the UK.

The UK is positioning itself as a cryptocurrency-friendly jurisdiction, with Prime Minister Rishi Sunak's goal of making the UK the jurisdiction of choice for crypto and blockchain technology [Sidley, 2023]. The UAE, particularly Dubai, is considered among the most crypto-friendly jurisdictions, but its growth is still in an early stage compared to the UK and Singapore [Cryptorank, 2023]. Then, Singapore is looking to strengthen its position as the jurisdiction of choice for digital assets in the Asia-Pacific region, with 55% of respondents interested in having a presence there.

Figure 16: Setting up in any other jurisdictions outside the US/UK

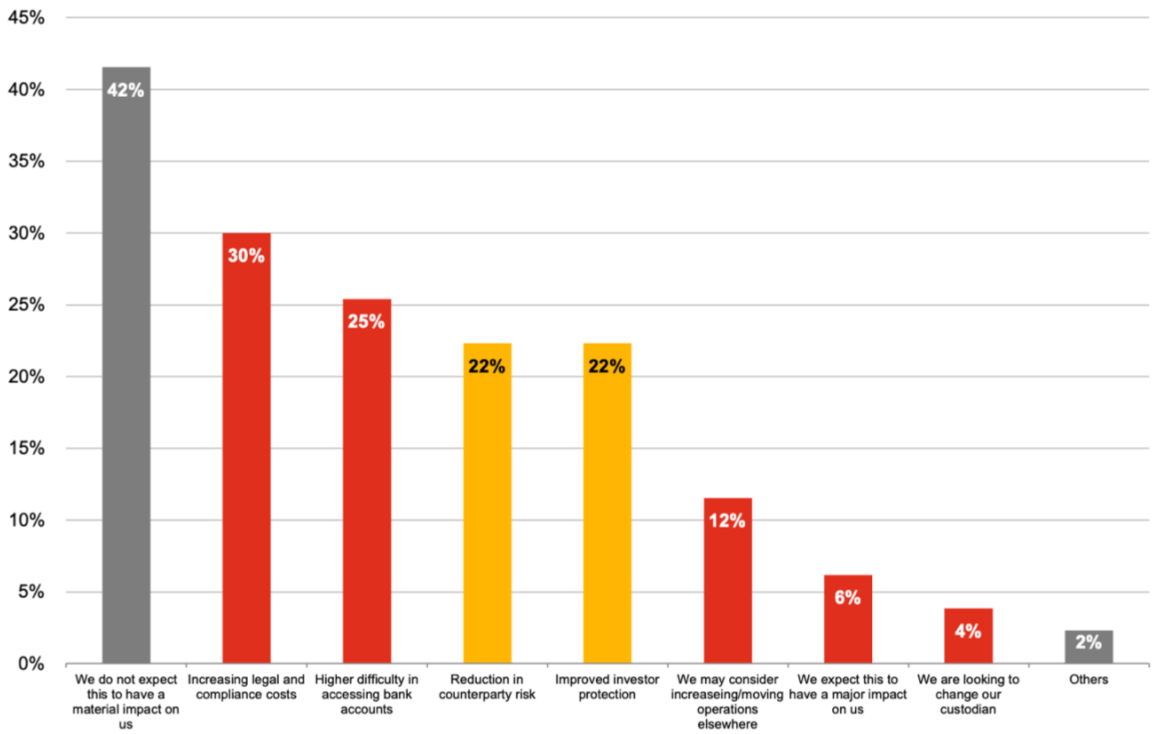
Jurisdiction	No interest	Some interest	Strong interest	Already here
UAE	23%	29%	39%	10%
Singapore	20%	33%	23%	23%
Caribbean	36%	32%	18%	14%
Bermuda	50%	31%	12%	8%
Hong Kong	44%	37%	11%	7%
Canada	74%	9%	0%	17%

Source: AIMA, 2023. Regulatory environment drives jurisdictional choice among crypto firms

We have observed that regulations on digital assets are continually evolving worldwide, with each region adopting its own approach. It's worth noting that European and Asian regulatory authorities provide clearer guidelines, while the United States emphasizes a conservative approach focused on law enforcement. This US strategy aims to ensure financial market stability, protect investors, and combat money laundering, tax fraud, and other illegal activities. However, this might inadvertently shift innovation towards areas with more lenient regulations. As a result, digital asset hedge funds and rule-abiding firms face challenges securing banking partners for their fiat reserves and might consider relocating outside of the US.

According to a survey conducted by PwC in 2023, it's interesting to note that 54% of the hedge fund managers participating in the survey operate in the US, and their views on US regulations haven't shown significant differences between those operating within or outside the US. Figure 17 illustrates the collective opinions of the surveyed funds on US regulation.

Figure 17: How crypto hedge funds expect US regulation to impact their operations



Source: PwC, 2023. 5th Annual Global Crypto Hedge Fund Report

Views on the potential effects of increased oversight by US regulatory authorities on business operations are mixed, encompassing both optimistic and pessimistic perspectives. Only a notable minority, albeit small, currently believes that these regulatory changes could significantly impact their operations. In fact, 12% stated they might consider relocating their activities abroad.

In the current landscape, the coalition of global economies—Brazil, Russia, India, China, and South Africa, collectively known as BRICS—could have a substantial impact on the future of digital assets and their regulatory frameworks [Parlamento Italiano, 2023]. These countries are actively seeking to reduce their dependency on the U.S. dollar and diversify their foreign exchange reserves. Additionally, some BRICS members, such as China and Russia, are working to expand and strengthen the alliance as a counterbalance to Western influence.

With the potential inclusion of new countries like Argentina, Egypt, Ethiopia, Iran, the United Arab Emirates, and Saudi Arabia into the BRICS group, the global balance of power could shift even further [Brayden L., 2023]. With these new members, BRICS countries would account for 36% of global GDP and 47% of the world's population [Carrello L., 2023]. This expansion could open up new avenues for attracting capital and investments to these nations, including those in the digital asset sector.

A pivotal point, in my opinion, will be the entry of crypto-friendly new members like the United Arab Emirates (UAE). This could further accelerate the adoption of digital assets and foster an environment conducive to innovation in the sector. It's worth noting that in a previous survey conducted by AIMA (Figure 16), the UAE ranked first in terms of interest in relocating digital asset hedge fund managers. Moreover, we must remember that most investors, when deciding to invest in digital assets, typically convert their FIAT currency into a U.S. dollar-anchored stablecoin like Tether, USDC, or others. The introduction of a stablecoin like BRICSTether, pegged to the Chinese Yuan, could redirect digital asset investments towards these emerging countries, thereby favouring the process of De-Dollarisation [Giokas Y., 2023].

CHAPTER 3

The Three Arrows Capital Case Study

The world of digital assets has witnessed rapid growth and transformation, with a myriad of players entering the space, each with their unique strategies and risk appetites. Among these, the story of Three Arrows Capital (3AC) stands out as a cautionary tale for hedge funds and regulatory bodies alike. This chapter delves into the rise, fall, and legal intricacies surrounding 3AC, offering insights into the importance of regulatory compliance, risk management, and investor protection in the digital asset space.

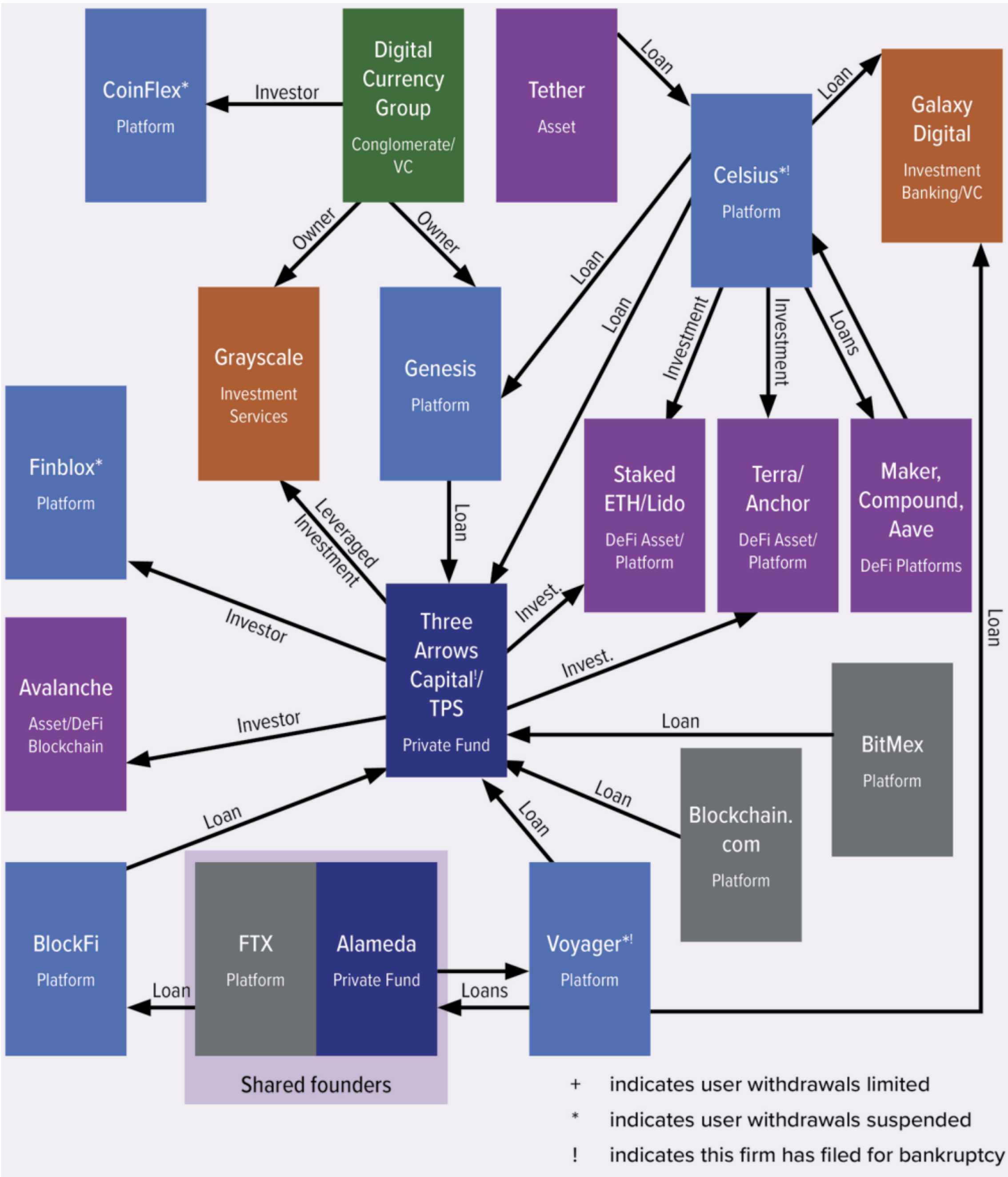
Three Arrows Capital (3AC) was a Singapore-based digital asset hedge fund founded in 2012 by Kyle Davies and Su Zhu. The duo, who first became friends in high school, embarked on conventional financial careers after graduating from Phillips Academy in Massachusetts and later Columbia University. They began their journey in the finance industry by trading derivatives at Credit Suisse Group AG in Tokyo. In 2012, they established 3AC, capitalizing on price differences in emerging market currency derivatives [Westbrook T., 2022].

As digital assets began to gain traction in 2016, Zhu and Davies recognized the burgeoning crypto market's potential for profit, especially from price discrepancies in currency contracts. They leveraged these opportunities to build 3AC into a crypto-trading behemoth. At its peak, the firm managed over $10 billion in assets, making it one of the most prominent digital asset hedge funds in the world. Their strategy involved borrowing money from across the industry and investing that capital in other, often nascent, digital asset projects. 3AC was well-known for its use of leverage, although the exact extent of its leverage remains unclear due to the relatively opaque nature of the crypto market.

The downfall of 3AC can be attributed to its aggressive use of leverage. As the crypto market tumbled, the collateral supporting the loans was no longer sufficient, and 3AC failed to meet margin calls from its lenders, including FTX, Deribit, and BitMEX. This led to a downward spiral that affected many digital asset investors [MacKenzie S., 2022].

The collapse of 3AC not only resulted in its own demise but also instigated bankruptcy, distress, and bailouts at firms like Celsius Network, Voyager Digital, and BlockFi.

Figure 18: Reported interconnections of Three Arrows Capital

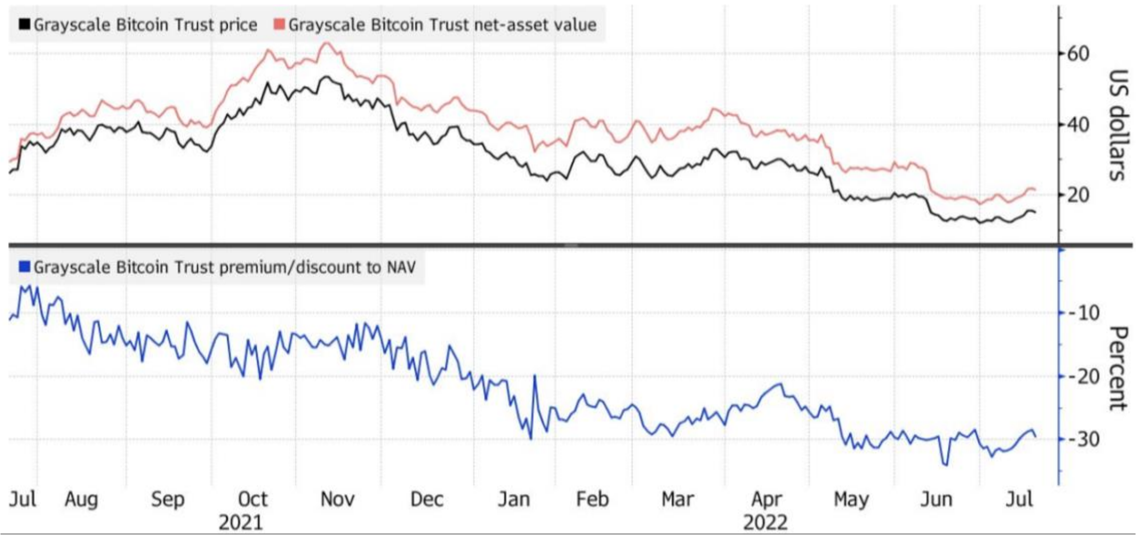


Source: Financial Stability Oversight Council, 2022. Report on Digital Asset Financial Stability Risks and Regulation

Davies and Zhu acknowledged substantial losses linked to trades in Luna and the now-defunct algorithmic stablecoin, TerraUSD, expressing their astonishment at the swift decline of these tokens. "What we overlooked was Luna's potential to plummet to virtually zero in just a few days, which would trigger a credit crunch throughout the sector, exerting immense strain on all our illiquid positions," Zhu commented [Ossinger J. et al., 2022]. One such trade involved a token linked to Ethereum named staked ETH, or stETH, intended as a tradable stand-in for Ether and extensively utilized in decentralized finance. Although each stETH is designed to be exchangeable for one Ether once the anticipated upgrades to the Ethereum blockchain are implemented, the chaos resulting from Terra's downfall led its market value to dip beneath that threshold [Isicheia A., 2022]. This sequence of events, as Zhu narrated, prompted other traders to initiate trades that would profit from the expanding disparity. Nevertheless, the fund persisted in borrowing from major digital-asset lenders and affluent investors until their eventual downfall.

Another optimistic trade that backfired on 3AC was via the Grayscale Bitcoin Trust or GBTC. This closed-end fund offers individuals who are either unable or unwilling to directly possess Bitcoin the alternative to purchase shares in a fund that invests in it. For a period, GBTC was among the scant US-regulated crypto products, thus dominating the market. Its shares consistently traded at a premium over the Bitcoin value it held in the secondary market due to its popularity. Grayscale permitted major investors like 3AC to directly buy shares by contributing Bitcoin to the trust. These GBTC shareholders could subsequently offload the shares on the secondary market. This premium implied that any sales could yield a handsome profit for these major investors. As of its final filing at 2020's end, 3AC was GBTC's most substantial shareholder, boasting a stake valued at $1 billion. However, the strategy encountered a hitch: Shares procured directly from Grayscale were subject to a six-month lock-up. And as 2021 commenced, this limitation posed challenges. GBTC's price transitioned from a premium to a discount, meaning a share's value was less than the backing Bitcoin, as it contended with increased rivalry from analogous products. As time progressed, this discount broadened, rendering the so-called GBTC arbitrage trade ineffective, particularly detrimental to investors leveraging to amplify returns [Bartenstein B. et al., 2022].

Figure 19: GBTC Trading at a Discount

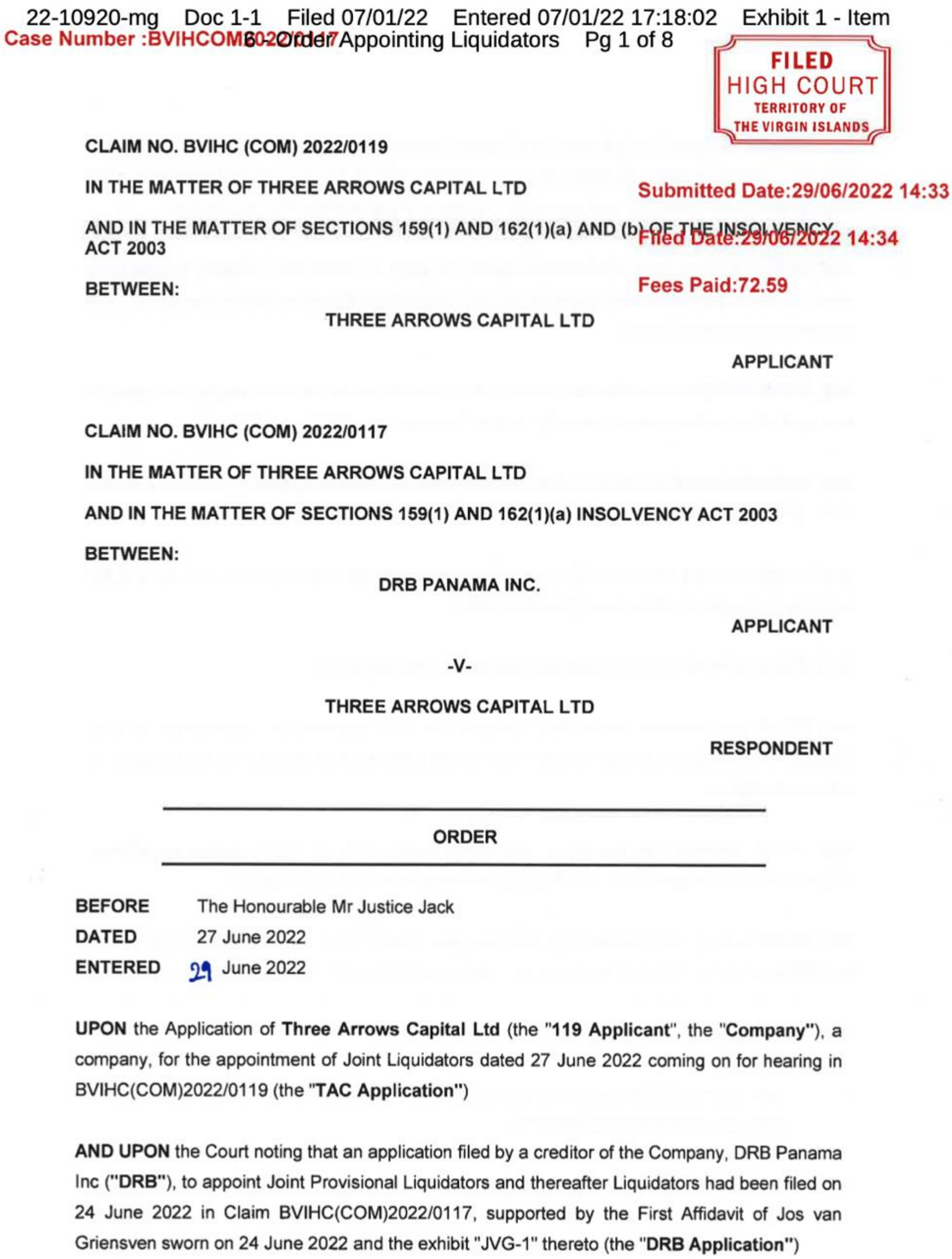


Source: Ossinger J., Shen M., Yang Y., 2022. Three Arrows Founders Break Silence Over Collapse of Crypto Hedge Fund

Several counterparties of 3AC reportedly suffered sizable losses. Voyager Digital, a publicly listed digital assets platform, had reportedly made a significant loan to 3AC, constituting about 60% of Voyager Digital's total loan book as of year-end 2021. Following reports of 3AC's financial distress, Voyager Digital imposed limits on withdrawals by its customers, raised funds through a credit line, and later filed for bankruptcy protection, announcing a restructuring plan [Brown E. et al., 2022]. Other lenders that suffered losses on loans to 3AC reportedly included Blockchain.com, BlockFi, Deribit, and Genesis [Chipolina S., 2022].

In June 2022, a court in the British Virgin Islands ordered the liquidation of 3AC following an application by one of its creditors (Figure 20). Creditors of the fund, represented by a Panama company called "DRB", filed paperwork claiming they are owed more than $2.8 billion in unsecured claims.

Figure 20: Chapter 15 Petition for Recognition of a Foreign Proceeding, 3AC



22-10920-mg Doc 1-1 Filed 07/01/22 Entered 07/01/22 17:18:02 Exhibit 1 - Item 6 Order Appointing Liquidators Pg 1 of 8

Case Number :BVIHCOM2022/0117

FILED
HIGH COURT
TERRITORY OF
THE VIRGIN ISLANDS

Submitted Date:29/06/2022 14:33

Filed Date:29/06/2022 14:34

Fees Paid:72.59

CLAIM NO. BVIHC (COM) 2022/0119

IN THE MATTER OF THREE ARROWS CAPITAL LTD

AND IN THE MATTER OF SECTIONS 159(1) AND 162(1)(a) AND (b) OF THE INSOLVENCY ACT 2003

BETWEEN:

THREE ARROWS CAPITAL LTD

APPLICANT

CLAIM NO. BVIHC (COM) 2022/0117

IN THE MATTER OF THREE ARROWS CAPITAL LTD

AND IN THE MATTER OF SECTIONS 159(1) AND 162(1)(a) INSOLVENCY ACT 2003

BETWEEN:

DRB PANAMA INC.

APPLICANT

-V-

THREE ARROWS CAPITAL LTD

RESPONDENT

ORDER

BEFORE The Honourable Mr Justice Jack

DATED 27 June 2022

ENTERED 29 June 2022

UPON the Application of **Three Arrows Capital Ltd** (the "**119 Applicant**", the "**Company**"), a company, for the appointment of Joint Liquidators dated 27 June 2022 coming on for hearing in BVIHC(COM)2022/0119 (the "**TAC Application**")

AND UPON the Court noting that an application filed by a creditor of the Company, DRB Panama Inc ("**DRB**"), to appoint Joint Provisional Liquidators and thereafter Liquidators had been filed on 24 June 2022 in Claim BVIHC(COM)2022/0117, supported by the First Affidavit of Jos van Griensven sworn on 24 June 2022 and the exhibit "JVG-1" thereto (the "**DRB Application**")

Source: ArentFox Schiff Law, 2022. Chapter 15 Petition for Recognition of a Foreign Proceeding

In addition, Russell Crumpler and Christopher Farmer, liquidators from Teneo (the advisory firm overseeing the liquidation of 3A), have faced challenges in recovering the assets of the company, as the founders Zhu and Davies have been uncooperative with the liquidation process. Despite these obstacles, Teneo has managed to recover some assets belonging to creditors, including $35 million. 3AC filed for Chapter 15 bankruptcy protection in the United States on July 1, 2022, days after its liquidation was ordered.

The failure of 3AC attracted the attention of regulatory authorities and led to legal actions and investigations. The Monetary Authority of Singapore (MAS) reprimanded 3AC for breaching its allowed threshold of having no more than SGD 250 million in assets under management and for providing false or misleading information to MAS. The U.S. Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC) initiated investigations into 3AC for allegedly deceiving investors about its balance sheet and for not registering with the two agencies.

The 3AC saga underscores the paramount importance of regulatory compliance in the digital asset space. Hedge funds must adhere to existing regulations to evade legal complications and sustain investor trust. The case also accentuates the significance of robust risk management strategies, especially in volatile markets like digital assets. Furthermore, it emphasizes the need for transparency and collaboration with regulatory authorities and liquidators during a company's dissolution.
From the 3AC case, several lessons emerge:

- ***Regulatory Compliance***: Adherence to regulations is crucial to avert legal issues and maintain investor trust.
- ***Risk Management***: Hedge funds must employ robust risk management strategies and exercise caution with leverage use.
- ***Transparency***: Cooperation with regulatory authorities and liquidators is vital during a company's collapse.
- ***Investor Protection***: The digital asset domain requires enhanced investor protection mechanisms, such as mandatory asset segregation, financial audits, and independent reserve asset statements.

In essence, the 3AC narrative serves as a potent reminder of the intricacies and challenges of navigating the digital asset space, emphasizing the need for vigilance, compliance, and sound risk management.

Conclusions

The rise of digital assets has presented both opportunities and challenges for hedge funds. While the potential for high returns and portfolio diversification attracts them, the lack of clear regulation and market volatility pose significant hurdles.

The most favorable jurisdictions for hedge funds investing in digital assets include the Cayman Islands, the British Virgin Islands, and Gibraltar. These locales have a supportive history, infrastructure, and regulations for digital asset hedge funds, with elements like tax neutrality, common law-based legislation, and global fund recognition enhancing their appeal. However, each jurisdiction has its own advantages and disadvantages.

The thesis highlights potential developments in the digital asset landscape, such as the vision of BRICS and the entry of crypto-supportive countries like the UAE. A previous AIMA survey emphasized the UAE's leading position in attracting digital asset hedge fund managers. Most investors use U.S. dollar-linked stablecoins like Tether or USDC. Introducing a stablecoin such as BRICSTether, pegged to the Chinese Yuan, could shift digital investments to these emerging nations, supporting de-dollarization.

Furthermore, the thesis underscores the importance of regulatory compliance, risk management, and investor protection. The case study of Three Arrows Capital demonstrates the potential rewards and risks of digital asset hedge funds.

The findings of this research should be interpreted with caution, as the study relies on data available at the time, which might be biased and not reflect recent advancements.

In conclusion, the thesis offers a comprehensive understanding of hedge fund investments in digital assets and insights for future strategies and regulatory considerations. Through international collaboration, measures can be developed to bridge data gaps in the transnational realm of digital assets and crypto-related endeavors. National bodies should work together to determine essential data for effective oversight of digital asset hedge fund market trends, focusing on key intersections with financial entities and central market infrastructures.

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Greetings

I hereby extend my profound appreciation to all those who have generously shared their expertise and provided unwavering support throughout this intellectual pursuit.

My fascination with digital assets, as evidenced in my undergraduate thesis exploring the tokenization of assets, has been further invigorated by my recent professional experience as an investment analyst at a hedge fund specializing in digital assets. I am deeply indebted to Raffaele for imparting a wealth of knowledge in such a brief period.

I wish to convey my special gratitude to Professor La Cognata, a cosmopolitan individual who has bestowed upon me invaluable insights during my master's studies.

From the innermost recesses of my heart, I express my sincerest thanks to my family and those who have become an integral part of it for their unwavering support, which has enabled me to reach this juncture. This study encapsulates an intercontinental odyssey during which I have left fragments of my heart and encountered unforgettable individuals and experiences in Japan, Thailand, and England.

Lastly, I dedicate this significant milestone to myself, in the hope that it heralds the commencement of a long and distinguished professional career.