

Beyond the Hype: A Meme Coin Reality Check for Retail Investors

David Krause

Emeritus Professor, Finance Department, Marquette University, Milwaukee, WI, USA

david.krause@marquette.edu

Abstract

In recent years, meme cryptocurrency coins have surged in popularity, evolving from online jokes and viral social media trends to become a point of interest for young retail investors globally. However, this rapid ascent is accompanied by significant risks due to the volatile and speculative nature of these assets, as well as the presence of some outright scams. Understanding the underlying technology of these digital assets and distinguishing between credible projects and potential frauds is essential for making prudent investment choices. This paper aims to serve as a valuable resource for retail investors by providing insights into the foundational technologies of meme coins, practical advice for navigating their fluctuating market dynamics, and strategies for cautiously incorporating them into a diversified investment portfolio. The study explores meme coins' performance relative to traditional cryptocurrencies, bonds, and stocks, highlighting their moderate correlation with major cryptocurrencies and low correlation with traditional assets. While offering substantial returns, meme coins also present significant risks, necessitating thorough research and due diligence for informed investment decisions.

Keywords: Meme Coins, Cryptocurrency, Investment Strategies, Bitcoin, Dogecoin, Social Media Influence

JEL Code Classifications: G11, G12, G13, G18, D53, O33

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I. Introduction

In recent years, meme cryptocurrency coins have surged in popularity, evolving from online jokes and viral social media trends to become a key point of interest for young retail investors globally.¹ However, this rapid ascent is accompanied by significant risks due to the volatile and speculative nature of these assets, as well as the presence of some outright scams (Scharfman, 2024). Understanding the underlying technology of these digital assets and distinguishing between credible projects and potential frauds is essential for making prudent investment choices.

This paper aims to serve as a valuable resource for retail investors by providing insights into the foundational technologies of meme coins, practical advice for navigating their fluctuating market dynamics, and strategies for cautiously incorporating them into a diversified investment portfolio. By examining these aspects, this guide seeks to equip investors with the knowledge necessary to navigate the evolving landscape of meme coins with more confidence and awareness.

Bitcoin and Ethereum have been the primary focus of researchers, while meme coins have received far less scrutiny despite attracting a loyal following of investors (Kaur et al., 2023). This study explores the performance of meme coins, a distinct subset of altcoins, relative to traditional cryptocurrencies, bonds, and stocks.² The findings indicate that meme coins exhibit moderate return correlations with Bitcoin and Ethereum, while their correlations with bonds and stock funds are low or even negative. Furthermore,

¹ A meme is a cultural idea or image that spreads virally through imitation.

² Altcoins (short for alternative cryptocurrencies) include all cryptocurrencies except Bitcoin.

several prominent meme coins have demonstrated respectable Sharpe Ratios compared to other investment vehicles over similar periods.

Despite their potential for high returns, the extreme volatility of meme coins makes them unsuitable for investors with shorter time horizons. However, this volatility can present lucrative trading opportunities for those who seek assets with sharp price movements (Johnson et al., 2023). For cryptocurrency investors with long-term perspectives, diversification remains key, and including a portion of meme coins backed by legitimate projects in a cryptocurrency portfolio could provide an advantageous balance. While meme coins offer unique opportunities and risks, their integration into a diversified investment strategy can enhance potential returns without compromising stability. Nevertheless, investors should remain informed and careful of the hype, recognizing the dynamic and unregulated nature of these cryptocurrency offerings.

II. What Are Meme Coins?

Meme coins, sometimes referred to as altcoins, represent a category of cryptocurrencies primarily fueled by internet culture, memes, and social media phenomena rather than robust financial or technological fundamentals (Nani, 2022).³ These coins often adopt names, logos, or themes inspired by popular internet memes or cultural references, exemplified by coins like Dogecoin (DOGE) and Shiba Inu (SHIB). Their value and success hinge on the hype generated by enthusiastic communities and influencers who promote and invest in them, leveraging platforms like X (formerly Twitter), Reddit, and TikTok to amplify their visibility and appeal (Serada, 2023).

³ Altcoins subcategories include payment-focused coins, smart contract platforms, privacy coins, security tokens, utility tokens, and meme coins.

Characterized by their speculative nature, meme coins are notorious for experiencing extreme price volatility driven by hype, celebrity endorsements, and viral social media trends rather than intrinsic value (Singla and Gupta, 2024). Compared to traditional cryptocurrencies with high entry barriers, meme coins are relatively easy to create, leading to a proliferation of such tokens in the market. Some meme coins employ philanthropic initiatives or innovative marketing strategies to enhance their credibility and attract investor interest.

While meme coins can yield substantial short-term profits for opportunistic investors, they are widely recognized as extremely high-risk investments due to their unpredictable price swings and lack of foundational support. Investors are advised to approach them cautiously, conducting thorough research and due diligence before considering them as part of their investment strategy. By understanding the dynamics of meme coins and their unique market influences, investors can navigate these volatile assets with greater awareness and informed decision-making.

During the COVID-19 pandemic, meme cryptocurrencies along with meme stocks, such as GameStop and AMC, surged in popularity among young people (Yousaf et al., 2024). These assets became focal points of online communities on social media platforms, where users shared investment tips, celebrated gains, and collectively challenged traditional financial norms (Ruiu et al., 2024). The accessibility of trading apps and the allure of quick profits in a volatile market environment attracted a new generation of retail investors. Social media amplified trends and influenced investment decisions, reflecting a broad cultural shift towards digital engagement with finance (Lamdin, 2023). This phenomenon underscored a growing interest among young investors in participating actively in financial markets, driven by social connectivity and a desire to capitalize on emerging opportunities in the digital economy.

III. History of Meme Coins

The history of meme coins connects with the evolution of internet culture and the broader adoption of cryptocurrencies (Holder et al., 2023). Originating in 2013 with Dogecoin, created as a playful critique of the burgeoning altcoin market by Billy Markus and Jackson Palmer, these coins quickly gained traction beyond their comedic origins. Dogecoin, characterized by its friendly Shiba Inu dog meme branding, found practical applications such as tipping content creators and supporting charitable causes, fostering a loyal community of supporters.

The rise of meme coins saw a significant boost from 2020 onwards, particularly with the introduction of Shiba Inu by the pseudonymous creator known as Ryoshi. Launched as a direct competitor to Dogecoin, SHIB capitalized on the heightened market enthusiasm during the COVID-19 pandemic (Agarwal et al., 2024). Shiba Inu's breakthrough came in March 2021, when Elon Musk's tweet about his interest in a Shiba Inu puppy inadvertently propelled the coin into the limelight. This surge in popularity catapulted the meme coin into the ranks of the top 20 cryptocurrencies by market capitalization, with its value skyrocketing by two thousand percent in five days and an astonishing 87 million percent from January to October 2021.⁴ Its ecosystem expanded to include additional tokens and decentralized finance (DeFi) projects, reflecting a broader trend towards leveraging meme-based branding in the cryptocurrency space.

Other meme coins, such as Floki Inu (FLOKI), Akita Inu (AKITA), and Kishu Inu (KISHU), followed suit, often drawing inspiration from popular dog breeds or internet memes. Like other meme projects, these capitalized on social media platforms for

⁴ In January 2021, Shiba Inu tokens were trading at a price of \$0.000000000077 and at the end of October 2021, was trading at \$0.000067 .

community building and marketing. Influencers and celebrities wielded substantial influence over meme coin markets through endorsements and social media posts, contributing to their volatility and market movements (Jabeen et al., 2023).

The speculative nature of meme coins is a defining characteristic, marked by extreme price volatility driven by speculation, hype, and the fear of missing out or FOMO (Melliani et al., 2023). While offering potential for rapid gains, this volatility has also attracted regulatory scrutiny regarding market manipulation, investor protection, and financial stability (Su, 2023). As meme coins continue to evolve alongside internet culture and cryptocurrency adoption, understanding their history, dynamics, and regulatory implications becomes essential for investors navigating this rapidly changing landscape.

IV. The Technology Behind Meme Coins

Meme coins, renowned for their speculative nature, span a spectrum from scams to purely speculative ventures to those striving for practical utility (Chahal et al., 2023). Among the pioneers is Dogecoin, conceived in 2013 as a humorous critique of the burgeoning altcoin scene. Built on the Litecoin protocol, itself a fork of Bitcoin, Dogecoin inherited robust security features while utilizing the Scrypt algorithm for mining, which initially deterred ASIC mining due to its memory-intensive nature.⁵ With a 1-minute block time, faster than Bitcoin and Litecoin, Dogecoin facilitates quicker transaction confirmations. Notably, Dogecoin boasts an uncapped supply, contrasting sharply with Bitcoin's finite limit, designed to support ongoing circulation and transactional use.

Despite its meme origins, Dogecoin has raised a dedicated community known for its charitable endeavors, such as sponsoring the Jamaican bobsled team and funding clean

⁵ Scrypt makes mining more accessible to regular users with standard hardware, promoting a more decentralized and fairer network.

water projects in Kenya. While its meme status has boosted cryptocurrency awareness, some have underestimated its technical capabilities and potential applications, prompting renewed interest and development efforts in recent years (Brichta, 2023).

Shiba Inu launched in 2020 was purported as a "Dogecoin Killer," exemplifies the speculative side of meme coins; however, it has since pivoted towards utility-driven objectives (de Filippi et al., 2024). Built on the Ethereum blockchain, it leverages smart contracts introducing DeFi functionalities, reflecting a strategic shift towards sustainable ecosystem development. The introduction of ShibaSwap, a decentralized exchange (DEX) offering staking, liquidity pools, and yield farming, underscores Shiba Inu's evolution beyond mere speculation. Additional tokens like LEASH and BONE further enhance financial incentives and community governance within the Shiba Inu ecosystem, positioning it as a multifaceted player in the meme coin landscape.

Floki Inu represents another example of meme coins transitioning towards practical utility by integrating DeFi and non-fungible token (NFT) marketplaces. Launched in 2021 by an anonymous team of developers, FLOKI's DeFi platform seeks to facilitate staking, lending, and borrowing services, catering to users seeking to earn passive income and participate in advanced financial activities. Concurrently, the planned NFT marketplace promises a venue for creators to monetize digital assets within the Floki Inu community, highlighting its efforts to expand beyond speculative trading.

Meanwhile, also launched in 2021, Akita Inu attempted to distinguish itself through community-driven initiatives focused on philanthropy and decentralized governance. Beyond speculative trading, AKITA supports charitable causes, including donations to animal shelters, underscoring its commitment to social impact. Its decentralized governance model empowers token holders to influence project decisions, fostering community engagement and ownership. Despite its initial popularity, AKITA

has not increased in market value due to controversies and challenges, including issues with its smart contract and criticisms about its long-term sustainability and usefulness.

Meme coins exhibit diverse technological frameworks and utility goals, ranging from speculative assets such as Dogecoin and Shiba Inu to projects like Floki Inu and Akita Inu, which aim for sustainable growth. The long-term success of these ventures relies on innovation, community backing, and their capacity to provide meaningful benefits beyond short-term speculation. Investors and stakeholders are advised to closely track these advancements to discern sustainable projects from transient trends or potential scams within the evolving meme coin market landscape.

V. Meme Coin Scams

The meme coin market, while captivating, has been plagued by numerous scams that exploit investor enthusiasm and the pervasive hype. One prominent example is the WSB Coin (WSB), which falsely claimed to be the official cryptocurrency of the WallStreetBets subreddit.⁶ Launched in May 2021, it quickly turned into a scam when a moderator dumped the allocated tokens just two days after launch, causing a dramatic crash in value and significant losses for investors (Huang et al., 2023).

Another high-profile case is SafeMoon (SFM), which garnered considerable attention in the crypto community due to its innovative approach and aggressive marketing (Ross, 2023). However, the developers later faced accusations of the project being a scam due to its opaque tokenomics and lack of transparency from the development

⁶ WallStreetBets is a popular subreddit thread where retail investors discuss high-risk cryptocurrency and stock trades and share investment strategies, often characterized by bold and speculative bets.

team.⁷ SafeMoon's controversial practices have sparked debates about its legitimacy, underscoring the need for caution.⁸

The BULL token fraud is another notorious example, where scammers impersonated the crypto analyst Ansem to promote a fake presale (Notariya, 2024). This deceitful scheme resulted in one victim losing \$1.2 million, and despite warnings, the scammers managed to siphon an additional \$250,000 from unsuspecting investors. This incident highlights how scammers can exploit the trust placed in reputable figures within the crypto community.

The Solana network has not been immune to schemes.⁹ In March 2024, 12 out of 27 meme coins launched on Solana were abandoned after their pre-sales, leading to losses of approximately \$26.7 million (Knight, 2024). Fraudsters are using social engineering tactics to deceive users through various social media channels. Some of these projects were so hastily abandoned that they did not even acquire official names before collapsing.

Common fraudulent tactics in the meme coin space include pump-and-dump schemes, where scammers artificially inflate a coin's price through misleading positive statements, only to sell their holdings at the peak, causing the value to plummet. Rug pulls are another frequent scam, where developers abruptly abandon the project and abscond with investors' funds. Additionally, fake influencer endorsements and impersonations of legitimate projects are tactics used to create artificial hype and lure in unsuspecting investors.

⁷ Tokenomics refers to the economic aspects and principles governing the creation, distribution, and management of cryptocurrencies or tokens within a blockchain ecosystem.

⁸ The price of SFM has moved little since 2021, the coin's total market value is less than \$1 million, and there is little daily trading volume.

⁹ Solana is a high-performance blockchain platform known for fast transaction speeds and low costs, designed to support DeFi applications and enable scalable global adoption.

To navigate the dangerous waters of meme coin investments, it is essential for investors to conduct thorough research and remain vigilant. Important red flags include sudden social media hype without substantial backing, anonymous development teams, promises of unrealistic returns, pressure to invest quickly, and a lack of clear utility or purpose for the coin. It is always useful to remember that in the volatile world of meme coins, if an opportunity seems too good to be true, it probably is!

VI. Identifying Legitimate Meme Coins vs. Scams and Frauds

The meme coin market, characterized by its potential for rapid gains and inherent risks, requires investors to discern between legitimate projects and fraudulent schemes before investing. Legitimate meme coins exhibit several key characteristics that differentiate them from scams. Transparency is paramount: reputable projects maintain open communication channels, provide clear roadmaps, and regularly update their communities on development progress. A robust and engaged community signifies legitimacy, with ongoing efforts to introduce new functionalities such as DeFi platforms or NFT ecosystems, which contribute to the coin's long-term value and utility.

Conversely, investors must be cautious regarding potential scams. Rug pulls, where developers abruptly withdraw liquidity, leaving investors with worthless tokens, are prevalent among newer and less scrutinized projects (Zhou et al., 2024). Mitigating this risk involves verifying the development team's credentials, checking for smart contract audits, and monitoring liquidity locked within the project. Pump and dump schemes present another danger, characterized by artificially inflating prices through coordinated buying and social media hype, followed by sudden selloffs that leave latecomers facing substantial losses (Dhawan and Putnins, 2023). Projects that lack transparency, such as anonymous development teams or vague roadmaps, often raise suspicions of fraudulent intent.

To illustrate these principles, consider the case studies of Shiba Inu and Wojak Finance (WOJ). SHIB exemplifies a legitimate meme coin with a strong community, an active ecosystem including ShibaSwap, and strategic development plans for future enhancements like Shibarium. It has secured listings on major exchanges and maintains transparent communication channels. In contrast, Wojak Finance operated as a pump and dump scam, marked by aggressive marketing tactics and an anonymous team. Its rapid price surge was followed by a sudden crash, highlighting the risks associated with investing in unverified projects.¹⁰

Additional strategies for identifying legitimate meme coins include analyzing social media sentiment for constructive engagement rather than hype, verifying listings on reputable exchanges as a sign of credibility, and seeking validation through credible media coverage. Technical audits conducted by reputable firms offer further assurance against vulnerabilities in smart contracts.

While the allure of meme coins may promise substantial returns, investors must approach these with caution. By familiarizing themselves with the hallmarks of legitimate projects and remaining vigilant against common scams, investors can navigate the meme coin market with greater confidence and mitigate potential risks. Thorough research and due diligence are essential, ensuring informed investment decisions and safeguarding against fraudulent schemes that prey on unsuspecting participants.

VII. How to Research Meme Coins

Navigating the meme coin market requires diligent research and informed decision-making to distinguish promising projects from potential pitfalls. The following contains some essential strategies and tools for effectively evaluating meme coin investments.

¹⁰ WOJ's price dropped from \$0.26 in December 2021, to less than \$0.01 six months later.

- **Evaluating the Project Team and Developers.** Transparency is crucial when evaluating meme coin projects. Seek teams with publicly identified members who possess relevant experience in blockchain technology and ideally, within the DeFi and NFT sector. Active communication channels such as Telegram groups and regular AMAs (Ask Me Anything sessions) indicate a team's commitment to transparency and community engagement. Investigate their past projects and reputations within the cryptocurrency community to gauge their credibility.
- **Analyzing the Whitepaper and Roadmap.** A comprehensive whitepaper serves as the foundational document outlining the project's vision, technology, tokenomics, and roadmap.¹¹ Look for whitepapers that are clear, devoid of excessive technical jargon, and easy to understand. The roadmap should provide a detailed timeline of development milestones and future goals, demonstrating the team's strategic planning and dedication to project success.
- **Assessing Community Engagement and Social Media Activity.** The strength of a meme coin's community is a significant indicator of its potential longevity and value. Engage with communities that foster active discussions, constructive feedback, and a focus on sustainable growth rather than short-term speculation. Monitor social media channels for follower growth, engagement metrics, and community sentiment. Beware of projects characterized by exaggerated hype and unrealistic promises, which could indicate speculative risks.
- **Checking for Security Audits and Regulatory Compliance.** Prioritize meme coins that have undergone third-party security audits by reputable firms.¹² These audits identify vulnerabilities within smart contracts and enhance investor confidence in the project's security measures. Stay informed about evolving regulatory frameworks applicable to meme coins, and favor projects that demonstrate proactive efforts toward compliance with existing and anticipated regulations.

¹¹ A cryptocurrency's whitepaper should be accessible on its official website or through a reputable cryptocurrency research platform, such as CoinMarketCap.com.

¹² This information should be on the project's website or the following websites: CoinDesk, CoinTelegraph, and CryptoSlate.

- **Using Research Tools and Platforms.** Leverage specialized platforms like CoinGecko and CoinMarketCap for comprehensive data on meme coins, including market performance, developer information, and community metrics. These platforms offer filters specific to meme coins, facilitating efficient research and comparison.

It is important to note that while research tools provide valuable insights, critical thinking and independent analysis are essential for making informed decisions in the dynamic meme coin market. By following these steps and utilizing available resources, investors can navigate the complexities of meme coin investments with greater confidence and clarity.

VIII. How to Buy Meme Coins

Entering the meme coin market demands careful planning and execution to navigate its dynamic and often volatile nature effectively. This section provides a comprehensive guide to purchasing meme coins, emphasizing critical considerations for a secure and efficient transaction experience.

Choosing a Reputable Cryptocurrency Exchange

The first step is selecting a platform to facilitate meme coin purchases. Two main types of exchanges cater to different needs:

- **Centralized Exchanges (CEX):** Platforms like Binance, Coinbase, Kraken, and Huobi offer robust infrastructure, high liquidity, and support for various meme coins. These exchanges operate similarly to traditional stock markets, requiring account creation and KYC (Know Your Customer) verification for regulatory compliance.
- **Decentralized Exchanges (DEX):** Platforms such as Uniswap, SushiSwap, and PancakeSwap operate without intermediaries, allowing direct peer-to-peer trading from a cryptocurrency wallet. DEXs are particularly suitable for accessing meme

coins not listed on major CEXs, although users must manage wallet security and private keys independently.

Choosing the Right Exchange

When selecting an exchange, several factors should influence the decision:

- **Supported Meme Coins:** Ensure the exchange lists the specific meme coin that is intended for purchase to avoid unnecessary conversions or additional steps.
- **Security Measures:** Prioritize exchanges with robust security features such as two-factor authentication (2FA), cold wallet storage, and a strong track record of safeguarding user assets from hacking attempts.
- **Trading Fees:** Compare trading fees, withdrawal fees, and deposit fees across different exchanges, as these can vary significantly and impact overall investment costs.
- **User Interface:** Opt for an exchange with an intuitive interface that matches the investor's experience level, facilitating smooth navigation and trade execution.

Setting Up a Secure Wallet

After choosing an exchange, securing storage for meme coins becomes crucial to safeguard the investment effectively. Consider the following wallet options:

- **Centralized Exchange Wallets:** Offered by CEXs, these wallets are convenient for immediate trading but are custodial, meaning the exchange controls the private keys and bears responsibility for security breaches.
- **Non-Custodial Wallets:** Examples include MetaMask and Trust Wallet, which store private keys locally on the investor's device, ensuring complete control over the assets. Hardware wallets such as Ledger or Trezor provide an even higher level of security by storing keys offline, ideal for storing significant amounts of cryptocurrency long-term.

Wallet Security Tips

To enhance wallet security, choose only reputable wallet providers with a proven track record of security and user support. Never share private keys or sensitive

information with anyone, as this compromises the security of *the* funds. *Always* use strong passwords and enable two-factor authentication to add an additional layer of protection against unauthorized access.

Step-by-Step Guide to Purchasing Meme Coins

Using a Centralized Exchange (CEX):

1. **Registration:** Create an account on the chosen CEX platform and complete the KYC verification process to comply with regulatory requirements.
2. **Deposit Funds:** Fund the account with fiat currency or cryptocurrencies to prepare for purchasing the meme coins.
3. **Locate Meme Coin:** Navigate to the meme coin's trading pair on the exchange using its ticker symbol to find the relevant market.
4. **Purchase Meme Coin:** Execute a market order (buy at the current market price) or a limit order (buy at a specified price) based on the trading strategy and the current market conditions.

Using a Decentralized Exchange (DEX):

1. **Wallet Setup:** Set up a compatible cryptocurrency wallet that supports the blockchain network of the meme coin you intend to purchase, ensuring it is properly configured for decentralized trading.
2. **Transfer Funds:** Transfer Ethereum (for Ethereum-based tokens) or Binance Coin (for Binance Smart Chain tokens) to your wallet to cover the cost of purchasing meme coins and associated gas fees.
3. **Connect Wallet:** Connect your wallet securely to the chosen DEX platform, ensuring you follow all security protocols and verify the connection for accuracy.
4. **Swap for Meme Coin:** Select the meme coin from the available trading pairs, enter the desired amount for purchase, confirm the transaction details, and authorize payment of any necessary gas fees to complete the transaction.

Best Practices for Storing and Securing Meme Coins

To maintain the security of meme coin investments, the investor should choose a secure wallet solution based on their individual needs and risk tolerance, opting for hardware wallets for larger holdings and long-term storage. Back up private keys securely and ensure they are stored in a safe location away from potential threats or unauthorized access. Exercise caution against phishing scams and fraudulent activities targeting cryptocurrency users, staying vigilant to protect sensitive information and assets. Keep wallet software and device firmware updated with the latest security patches and improvements to mitigate potential vulnerabilities and enhance overall security.

Navigating the meme coin market requires thorough preparation, careful consideration of security measures, and adherence to best practices to ensure a safe and successful investment experience. By following these steps and prioritizing security at every stage, investors can confidently participate in the dynamic and evolving landscape of meme coin investments, minimizing risks and maximizing potential rewards.

IX. Evaluating Meme Coin Performance

The appeal of meme coins lies in their potential for significant returns, yet their volatile nature necessitates a careful evaluation before considering an investment. This section provides a discussion of the various methods to assess meme coin performance, as well as the results of an analysis relative to other assets.

Methodology: Meme cryptocurrencies are a young asset class, and their returns can appear to be exceptional if only measured from the first trading date – and looking at the survivors.¹³ However, it is generally unrealistic for retail investors to be able to

¹³ Survivorship bias occurs when investment analysis only includes surviving entities, leading to overly optimistic performance and underestimated risk by excluding failed investments.

purchase a meme coin at the initial trading price due to limited access and different exchange listings. Many meme coins launch through initial coin offerings (ICOs) which can be restricted to insiders, accredited investors, or only offered in specific regions. It may take time before these coins are available to retail investors despite being listed on a crypto exchange. As a result, the first listed prices may not be dependable for use as initial investment values which can result in biased upside results. Nevertheless, in this study cumulative and geometric annual return metrics since the inception date are based on data listed on Yahoo Finance, which is sourced from CoinMarketCap or other crypto reporters.

Performance Metrics: The following measures are utilized to analyze and present meme crypto performance, focusing on price movements over time rather than relying heavily on the initial posted price:

- *Cumulative Returns:* Analysis of the historical cumulative returns based on weekly price observations since the coin's inception as compared to other investments.
- *Geometric Mean:* This measure calculates the annualized return of the weekly price observations and is not influenced by extreme price fluctuations that can bias the use of the simple arithmetic average.
- *Standard Deviation:* The annualized standard deviation quantifies return fluctuations, providing a measure of how volatile the returns have been over time, with higher values indicating greater volatility.
- *Sharpe Ratio:* A simplified version evaluates return on a risk basis by dividing the annualized geometric mean return by the standard deviation, offering a clear measure of risk-adjusted performance for comparative purposes.
- *Correlation:* Examining the return correlations between meme coins, traditional investments, and major cryptocurrencies reveal how meme coins behave relative to more established assets. This analysis helps determine whether meme coins move in tandem with Bitcoin, broader market trends, or exhibit independent price movements, providing context for their role in a diversified investment portfolio.

Historical Return Analysis: Table 1 presents key data on the meme coins examined in this study, including Dogecoin (DOGE), Shiba Inu (SHIB), FLOKI (FLOKI), and Memecoin (MEM). These were selected because they are among the top meme coins with at least three years of return data. Dogecoin, created in 2013, holds the top rank among meme coins and ranks ninth overall in the cryptocurrency market, with a market cap of over \$16 billion as of July 7, 2024. Shiba Inu, launched in 2020, is the second-ranked meme coin and thirteenth in the crypto market, boasting a market cap of almost \$10 billion. FLOKI was created in 2021 ranking sixth among meme coins and fifty-third overall, with a much smaller market cap of \$1.4 billion. Memecoin, also introduced in 2021, is ranked eleventh among meme coins and one hundred fifty-sixth in the crypto market, with a smaller market cap of about \$300 million.

Table 1.
Meme Coins Included in Study

Name	Ticker	Meme Coin Rank	Crypto Rank	Creation Date	Market Cap (7/7/24)
Dogecoin	DOGE	1	9	12/6/13	\$16,038,021,183
Shiba Inu	SHIB	2	13	8/1/20	\$9,630,121,473
FLOKI	FLOKI	6	53	6/21/21	\$1,418,362,637
Memecoin	MEM	11	156	6/28/21	\$296,792,515

Dogecoin and Shiba Inu were created as jokes, but both have since developed practical applications. Dogecoin is widely used for tipping online content creators and charitable events, while Shiba Inu features a decentralized exchange called ShibaSwap and a growing ecosystem involving NFTs. FLOKI and Memecoin also started as meme coins, with FLOKI aiming to combine memes with utility through an NFT marketplace and gaming platform, and Memecoin focusing on community-driven initiatives and meme-based NFTs. The comparative performance of the two largest cryptocurrencies,

Bitcoin and Ethereum, and two large traditional investments, Vanguard Total Bond Market Fund and the S&P 500 Index Fund have been studied previously (Krause, 2024).

Table 2 presents a comprehensive analysis of the investment performance of the four meme coins included in the study. Dogecoin, with the longest history of 6.71 years, shows an impressive cumulative return of 10,096% and a geometric annual return of 99.6%, although it has a high standard deviation of 230.1%, indicating significant volatility. Shiba Inu, with 3.27 years of data, achieved a 700% cumulative return and an 90% geometric annual return, but also exhibited the highest volatility among the coins with a standard deviation of 426%. FLOKI, over its 3.06 years of reported data, exhibited an impressive cumulative return of 3,425% and the highest annual geometric return of 223%, yet it maintained considerable volatility at 318%. Memecoin, however, stands out with a negative performance, showing a cumulative return of -96.6% and a geometric annual return of -74.6% over its 3.05 years, coupled with a standard deviation of 189%. The Sharpe ratios highlight the risk-adjusted returns, with FLOKI leading at 0.70, followed by Dogecoin at 0.43, Shiba Inu at 0.21, and Memecoin at -0.39, reflecting its inferior performance relative to the risk undertaken.

Table 2.
Meme Coin Investment Performance Analysis

Name	Dogecoin	Shiba Inu	FLOKI	Memecoin
Ticker	DOGE	SHIB	FLOKI	MEM
First Return Week	11/6/2017	4/12/2021	6/21/2021	6/28/2021
Years	6.71	3.27	3.06	3.05
Cumulative Return	10095.66%	700.00%	3425.00%	-96.55%
Geometric Annual Return	99.58%	89.62%	222.99%	-74.58%
Standard Deviation	230.06%	425.52%	318.26%	188.91%
Sharpe Ratio	0.43	0.21	0.70	-0.39

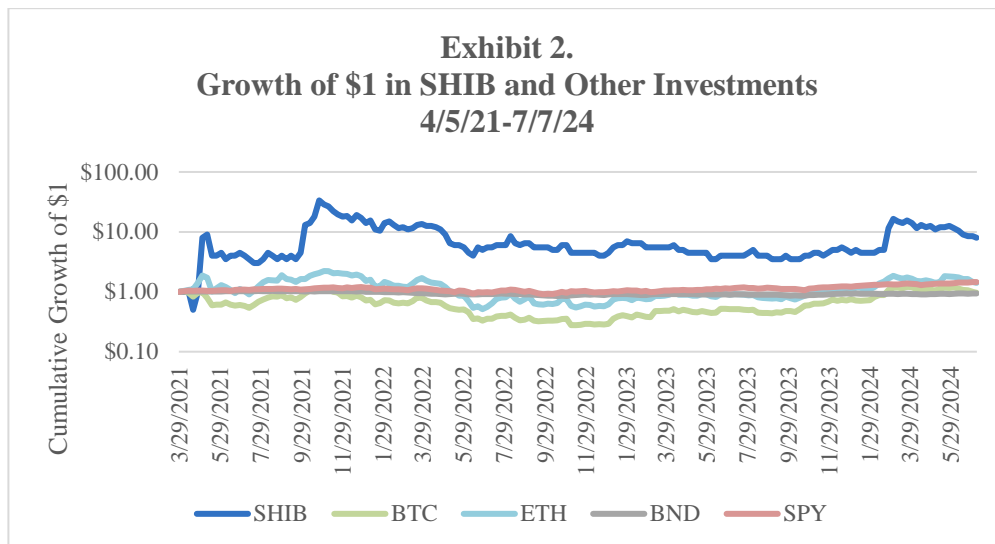
Exhibit 1 displayed the stark contrast in return performance of meme coins versus various investments over the study period. Dogecoin stands out as the runaway winner,

boasting a staggering growth in the investment of \$1 to over \$100 - with a point in May 2021 growing to \$550. This performance far surpasses the other established cryptocurrencies like Bitcoin and Ethereum, which both grew the \$1 initial investment to about \$10 by the end of the period. The traditional investments, Vanguard Bond Fund and S&P 500 Index Fund, grew to \$1.07 and \$2.40, respectively during the same period. Even though the chart is presented in a logarithmic scale, the dramatic difference in performance is apparent; however, it also reveals that Dogecoin displayed a high degree of volatility. While the meme coin's potential for amazing returns is undeniable, the other side is the significant risk of sharp price drops.

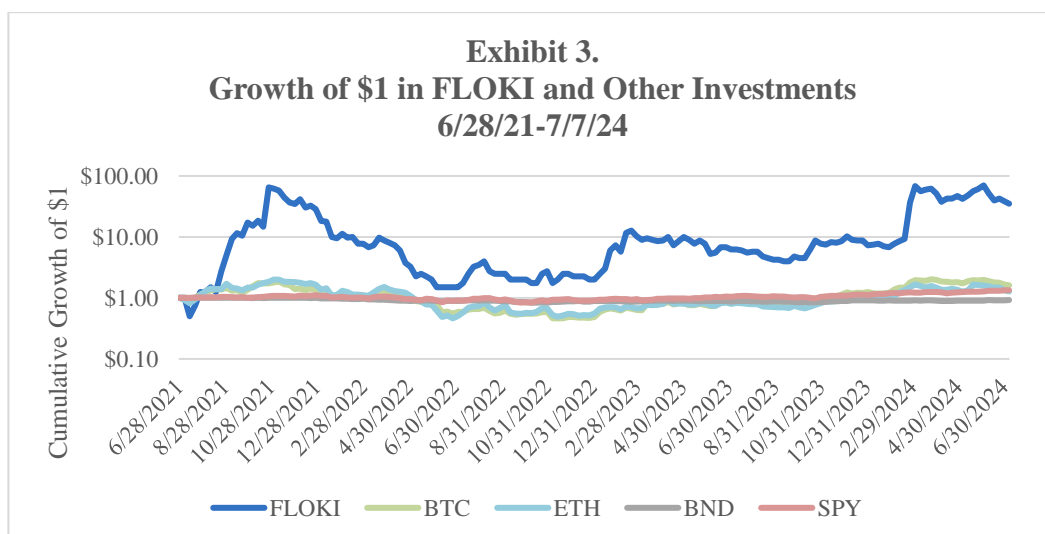


Exhibit 2 shows that Shiba Inu, like Dogecoin, significantly outperformed all the other investments displayed over the period from April 2021 to July 2024, with a \$1 investment growing to \$8. At one point in November 2021, the SHIB investment had grown to \$33. The overall performance of this meme coin was much stronger than the

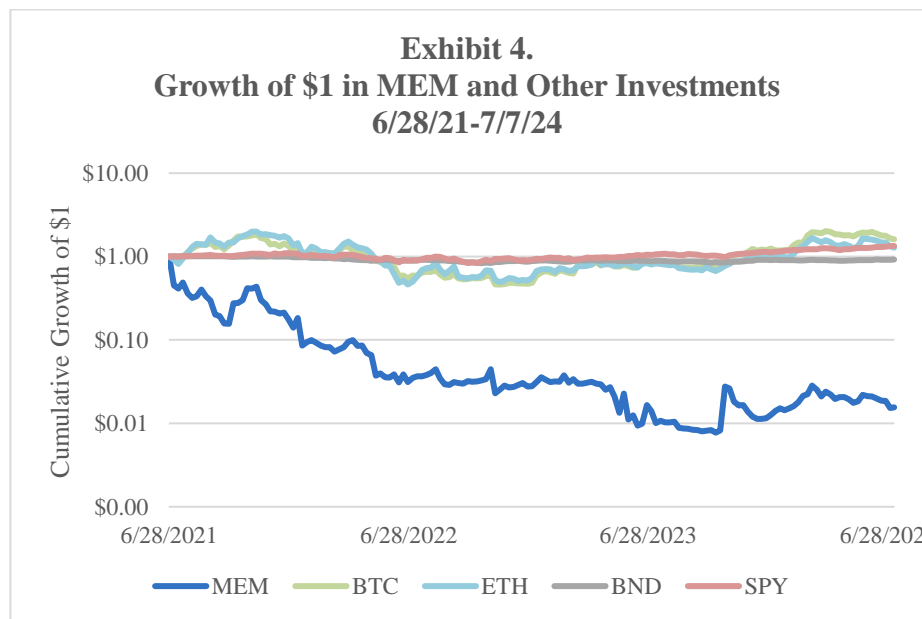
next best performers, Ethereum and the S&P 500, which each grew to slightly over \$1.40 over the period. Conversely, Bitcoin and the Vanguard Bond Fund ended the period below \$1 generating a slight negative return over the three-year time. The chart shows that SHIB, like other meme coins, is highly volatile and its price can fluctuate over relatively short periods.



The strong performance of another meme coin, FLOKI, is shown in Exhibit 3. A \$1 investment in June 2021 grew to \$35 by July 2024, a significant outperformance compared to the other investments. Twice FLOKI has approached a \$65 performance level, while falling back in value each instance. The chart shows that FLOKI also displays an extremely high degree of volatility compared to the other investments analyzed.



The performance of Memecoin from June 2021 to July 2024 is shown in Exhibit 4. This investment dramatically underperformed the other meme coins and investments. A \$1 investment in MEM would have fallen in value to \$0.016 by the end of the period, while \$1 investments in Bitcoin, Ethereum, Vanguard Bond Fund, and the S&P 500 Index would have generated ending values of \$1.61, \$1.28, \$0.92, and \$1.34, respectively. Unlike many other meme coins that have virtually disappeared after displaying similar results, MEM continues to be traded within the cryptocurrency markets.



Based on the time periods presented in the previous exhibits, an analysis of the Sharpe Ratios, as shown in Table 3, reveals a clear distinction between traditional investments and meme coins – other than FLOKI (0.70). The S&P 500 Index (0.74) and Bitcoin (0.56) had higher Sharpe ratios compared to most meme coins. This indicates that these more established assets deliver stronger risk-adjusted returns. Even the Vanguard Bond Fund (0.17), known for its conservative approach, maintained a positive Sharpe ratio. Interestingly, meme coins had varying Sharpe Ratios, signifying that while some of these have the potential for incredibly high returns, they also come with substantial volatility.

Table 3.
Sharpe Ratios of Meme Coins and Other Investments

Meme Coins	Dogecoin	Shiba Inu	FLOKI	Memecoin
Sharpe Ratio	0.43	0.21	0.70	-0.39
Traditional Investments	Bitcoin	Ethereum	Vanguard Bond Fund	S&P 500 Index
Sharpe Ratio	0.56	0.43	0.17	0.74

Table 4 shows the correlation relationships between the weekly returns during the period from April 2021 to July 2024 of meme coins and established assets. Meme coins generally exhibit positive moderate correlations amongst themselves, indicating their price movements are likely driven by similar factors. They share a slightly stronger correlation with Bitcoin and Ethereum, suggesting some influence from the broader cryptocurrency market, yet they also have some independent price drivers. Finally, meme coins display weak correlation with bonds and the stock market, implying they are largely independent asset classes.

Table 4.
Correlation Matrix of Weekly Returns

Weekly Returns	DOGE	SHIB	FLOKI	MEM	BTC	ETH	BND	SPY
DOGE	1.000							
SHIB	0.532	1.000						
FLOKI	0.444	0.533	1.000					
MEM	0.235	0.350	0.185	1.000				
BTC	0.591	0.518	0.412	0.387	1.000			
ETH	0.627	0.413	0.389	0.308	0.816	1.000		
BND	0.132	0.055	0.092	-0.045	0.051	0.107	1.000	
SPY	0.329	0.189	0.128	-0.010	0.299	0.381	0.371	1.000

Summary of Historical Return Analysis

This research provides an overview of the historical performance of four prominent meme coins: Dogecoin, Shiba Inu, FLOKI, and Memecoin. The performance analysis reveals Dogecoin's remarkable cumulative return, albeit with significant

volatility. Shiba Inu and FLOKI also showed strong returns but had high volatility levels. Memecoin, however, had an extremely negative cumulative return, highlighting its poor performance and large volatility. The Sharpe Ratios indicate that FLOKI has the best risk-adjusted returns among the meme coins, while Memecoin's negative Sharpe ratio reflects its dismal underperformance. The correlation analysis shows that meme coins have moderate correlations among themselves and positive correlations with Bitcoin and Ethereum. Overall, meme coins had weak weekly return correlations with bonds and the stocks, indicating they display a distinct behavior as an asset class.

Meme Coin Investment Strategies

The previous section demonstrated the extreme return volatility of meme coins, highlighting the need for a well-planned strategy when investing in these assets due to their unpredictable nature and distinct market dynamics. Based on the analysis of historical returns and Sharpe Ratios, the following strategies can be considered:

Diversification: To achieve a balanced portfolio, it is necessary to include a mix of established cryptocurrencies like Bitcoin and Ethereum along with meme coins. It has been shown that Bitcoin is not highly correlated with traditional assets and should be considered as an asset within a well-diversified portfolios (Kajtazi and Moro, 2019, Platanakis and Urquhart, 2020, Petukhina et al., 2021). In a recent study it was found that meme coins can act as a significant hedge against the price movements of Bitcoin, while the other types of altcoins do not (Li et al., 2023). Bitcoin and Ethereum have demonstrated more stable returns with higher Sharpe Ratios compared to most meme coins, offering a more secure foundation. Additionally, it is recommended to spread investments across multiple meme coins to further diversify risk within this asset class. Although meme coins tend to have moderate positive correlations with one another, diversifying within this group can still provide some level of risk mitigation.

Risk Management: Be aware of the high volatility inherent in meme coins. These are among the riskiest assets available to investors and all meme coins exhibit

significant standard deviations, indicating the potential for both high returns and sharp declines. Certain meme coins, such as Memecoin, could drop more than 95% in value over relatively short time periods.

Market Timing: Despite the skepticism many academics have towards technical analysis as an investment tool, it can be used to identify optimal entry and exit points. Given the historical price fluctuations of meme coins, timing trades effectively can significantly impact returns. Additionally, monitoring broader cryptocurrency market trends is essential, as meme coins exhibit moderate correlations with Bitcoin and Ethereum. Significant movements in these leading cryptocurrencies can influence meme coin prices, making trend analysis a valuable component of a comprehensive investment strategy.

Long-term vs. Short-term: Consider holding a major portion of meme coin investments long-term. Dogecoin's cumulative return of over 10,000% over nearly seven years suggests the potential for substantial gains for patient investors. Additionally, short-term meme coin traders should be aware of the high volatility and rapid price changes that occur with these assets. Only skilled traders should use this approach to capitalize on quick gains while mitigating the risk of prolonged market downturns.

Community and Development Focus: Investing in meme coins with active development and strong communities is another good strategy. For instance, Dogecoin and Shiba Inu have developed practical applications and ecosystems, which can contribute to their value. Additionally, it is suggested to prioritize meme coins that offer unique innovations or utilities beyond their meme status. FLOKI's focus on an NFT marketplace and gaming platform exemplifies a meme coin with added value.

Integrating Meme Coins into a Diversified Portfolio: Investors should limit their exposure to meme coins to a small percentage of their overall investment portfolio - typically 1-3%, depending on the level of risk tolerance and investment goals. When selecting meme coins, prioritize those with a solid history, an active development team, and a clear roadmap. It is vital to avoid new or unproven projects that carry higher risks of failure.

Monitoring and Adjusting Investment Strategies: The meme coin market evolves rapidly, necessitating active monitoring of market trends and project

developments. Regularly updating and adjusting strategies is crucial for effective risk management. Implementing stop-loss orders can protect an investment by automatically selling if a meme coin's price falls below a specified threshold, helping to minimize losses and safeguard capital. Additionally, consider taking profits when meme coin investments yield significant gains. Securing profits can reduce risk exposure and provide capital for potential reinvestment during market downturns.

These strategies serve as a framework to guide investment decisions, emphasizing the importance of thorough research, risk management, and responsible investing practices. Always approach meme coin investments with caution and avoid investing more than you can afford to lose in this dynamic and volatile market.

Conclusion

Meme coins have undeniably carved a niche in the cryptocurrency landscape, driven by internet culture and social media influence. Their potential for high returns has captivated a new generation of retail investors, yet this allure comes with substantial risks due to their inherent volatility and susceptibility to scams. This study has provided a comprehensive overview of the foundational technologies behind meme coins, their market dynamics, and strategies for incorporating them into diversified investment portfolios. By examining the historical performance and risk-adjusted returns of prominent meme coins such as Dogecoin, Shiba Inu, FLOKI, and Memecoin, investors can gain a clearer understanding of the unique opportunities and challenges these assets present.

The findings indicate that while meme coins can offer significant short-term gains, their extreme volatility makes them unsuitable for conservative investors or those with shorter time horizons. For long-term cryptocurrency investors, including a portion of meme coins backed by legitimate projects can enhance portfolio diversification and

potential returns. However, investors must remain vigilant and informed, recognizing the dynamic and often unregulated nature of this segment of the cryptocurrency market. Meme coins present both high reward and high risk; thus, thorough research, risk management, and cautious investment strategies are essential for navigating this evolving landscape.

Future research on meme coins should investigate deeper into the behavioral aspects of meme coin investors, exploring what drives their investment decisions and how social media trends impact their buying and selling behaviors. Additionally, studies could investigate the long-term viability of meme coins with evolving utility beyond their initial hype, such as integration into decentralized finance and non-fungible token ecosystems. Finally, examining the regulatory landscape and its implications for meme coins will be crucial as governments and financial authorities increasingly scrutinize the cryptocurrency market. Such research will provide valuable insights into the sustainability and future trajectory of meme coins in the broader financial ecosystem.

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Afterword

As someone deeply rooted in fundamental investment analysis through both academic study and industry experience, I offer the following insights and reflections on the evolving landscape of meme cryptocurrency investments.

Fundamental analysis involves evaluating a security's intrinsic value by examining related economic, financial, and other qualitative and quantitative factors. While the underlying technologies behind Bitcoin, Ethereum, Solana, Cardano, Polkadot, and other projects are impressive and could become mainstream over the next decade, I remain highly skeptical of the meme coin.

The world of cryptocurrency has witnessed a curious phenomenon: the rise of meme coins. These digital assets, often inspired by internet jokes and social media trends, have captured the imagination of young investors, sometimes experiencing meteoric price surges. However, a closer look reveals a potential parallel to a classic economic concept – the Greater Fool Theory – raising concerns about the long-term viability of these meme-fueled currencies.

I am still influenced by a book I read over fifty years ago as an undergraduate finance student. Burton Malkiel's seminal work, *A Random Walk Down Wall Street*, popularized the Greater Fool Theory. It proposes that investors might purchase overvalued assets, confident that they can later sell them to an even "greater fool" willing to pay an even higher price. If this action occurs with enough investors, it will create a bubble fueled by speculation and the hope of profiting from someone else's irrational exuberance.

Meme coins seem tailor-made for this theory. Their value often stems not from underlying utility, technological innovation, or free cash flows, but from social media buzz, celebrity endorsements, and the fear of missing out (FOMO). A Dogecoin,

emblazoned with the image of a Shiba Inu dog, skyrocketed after a series of tweets by Elon Musk. Similarly, another meme coin, Shiba Inu, itself rode the Dogecoin wave to new heights. These rapid price increases are fueled by the belief that the party will keep going, attracting new buyers willing to pay more to join the frenzy.

This approach to investing creates a precarious situation, akin to building castles in the sky. The value of these meme coins rests on a foundation of hype and speculation, not on any inherent economic value. When the tide recedes, as it inevitably does, those left holding the bag face significant losses.¹⁴ The history of financial bubbles is littered with examples of investors caught euphoric in the moment, only to face a harsh reality check later.

However, unlike traditional assets, meme coins lack the potential for generating future cash flows or dividends. They are purely speculative instruments, their value hinging entirely on the whims of the market. When the hype fades, and the "greater fools" dry up, the bubble bursts, leaving behind a trail of shattered dreams and empty wallets. This is not to say that all meme coins are destined for failure. Some of these might evolve into genuine projects with real-world applications. But for the vast majority, the current trajectory resembles a classic case of the Greater Fool Theory playing out in real-time.

To me, the future of meme coins remains uncertain. While they offer the allure of quick gains, the risks are massive. Investors venturing into this space should be aware of the inherent dangers and avoid getting caught up in the hype. Remember, the market can remain irrational for a long time, but it cannot stay irrational forever.

¹⁴ Buoyant markets, like a rising tide, can obscure financial vulnerabilities. As Warren Buffett wisely observed, it is often only when the tide recedes do we discover who has been swimming naked. This philosophy underscores the importance of prioritizing sound investment strategies over fleeting trends.

Approaching meme coins with a healthy dose of skepticism and a focus on long-term value is crucial. The allure of easy money might be tempting, but building a sustainable investment portfolio requires a more grounded approach. As the saying goes, there is a sucker born every minute, and in the world of meme coins, the only guarantee is that the party will not last forever.