Currency Narrative Competition

—A New Insight into Cryptocurrencies and Stablecoins

Abstract

The rise of cryptocurrencies and stablecoins constitutes a latent predation game against fiat currencies. Grounded in narrative economic theory, it can be conceptualized as a dynamic narrative competition. The asymmetric narrative interactions between emerging crypto and traditional fiat currency show cyclical and fluctuational dynamics, which in turn maps onto the volatility observed in cryptocurrency markets. Obtaining legitimacy through full fiat collateralization, stablecoins provide an internal safe haven for cryptocurrency system, but may amplify cyclical fluctuations and risks in currency narrative competition. It may evolve into a contest over currency sovereignty and regulatory dominance, while exhibiting characteristics of a typical race to the bottom and a tragedy of the commons. Consequently, governance must integrate tactical regulations at national level and instead foster a systemic framework based on multilateral coordination, aimed at safeguarding global financial stability.

Key Words: narrative competition； cryptocurrencies； stablecoins； currency sovereignty

1. Introduction

A digital financial landscape rooted in cryptography and decentralized principles has emerged within the global currency system. Cryptocurrencies, typically represented by Bitcoin, advocate for a paradigm of global value exchange without intermediaries, underpinned by code and algorithms. Since its inception, cryptocurrency market has undergone several bull-bear cycles, scripting a legendary narrative from initial skepticism to becoming an asset class that is now hard to ignore. Particularly since the advent of stablecoins around 2019, cryptocurrencies have begun to formally enter the mainstream, attracting active investments by traditional financial institutions. As of June 2025, the total global market capitalization of crypto assets has stabilized above USD 3 trillion, with the stablecoin market capitalization reaching approximately USD 271.9 billion and daily trading volume exceeding USD 150 billion. The global number of cryptocurrency users has surpassed 500 million. This means cryptocurrencies can no longer be regarded as marginal anomalies. Their continuous impact on the existing global financial order and regulatory framework, coupled with their deepening linkages with traditional finance, has become a significant issue that authorities worldwide cannot ignore.

The history of cryptocurrencies traces back to the 2008 global financial crisis. Scarred by financial trauma, the public grew skeptical of the global financial system. It was against this backdrop of crisis that a new solution emerged. An individual or group under the pseudonym Satoshi Nakamoto (2008) published an academic paper known as the Bitcoin whitepaper. Combining profound insight with innovative technical design, the whitepaper articulated a

novel decentralized currency narrative, resonating with the widespread public anxiety over the systemic failure of centralized financial institutions. Over the following decade, cryptocurrency market experienced explosive growth, constructing a complex financial ecosystem with internal self-reinforcing loops and powerful network effects. However, despite its increasing presence within the financial system, the extreme volatility of cryptocurrency prices has been a persistent problem, as Bitcoin market typically shows in Figure 1.

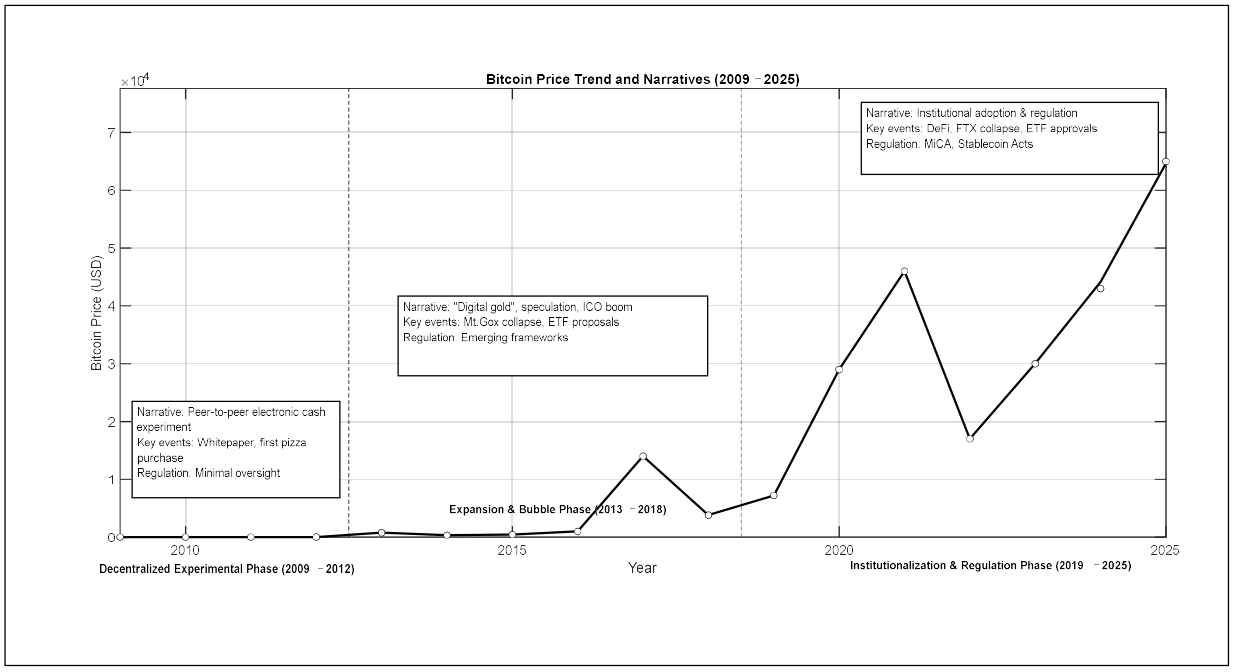


Figure 1. Bitcoin Price Fluctuations, 2009-2025(Drawn based on public data)

Bitcoin market developments can be roughly divided into three periods. The leftmost section of Figure 1 represents the first period: the Unregulated and Exploratory Period (2009–2012). During this period, there was essentially no systematic regulation. Key policy events included a 2011 US Senate hearing and a 2012 European Central Bank risk report, but comprehensive constraints had not yet emerged. The dominant market narrative framed Bitcoin as experimental electronic cash, with its price rising from a few cents to over USD 10, showing astonishing gains. The decentralized experiment narrative became fashionable, and the “digital gold” narrative began to emerge.

The second period was the Regulatory Shock and Compliance Exploration Period (2013–2018), as shown in the middle area of Figure1. During this period, the digital gold narrative for cryptocurrencies was established. Following the collapse of the Japanese exchange Mt.Gox in 2014, narratives concerning vulnerabilities in cryptocurrency trading and technology frequently emerged. Europe, the US, and Japan successively proposed framework regulations (e.g., New York's BitLicense, the CFTC classifying Bitcoin as a commodity). During 2017-2018, there was a global crackdown on ICOs and exchanges. China completely banned ICOs

and RMB-denominated cryptocurrency trading, and the US SEC rejected cryptocurrency ETF applications. Cryptocurrencies experienced a massive bull market followed by a “burst bubble”.

The third period is the Institutionalization and Regulatory Integration Period (2019–2025), as shown in the right area of Figure 1. Facebook's 2019 announcement of Libra (later Diem) drew global central banks' intense attention to stablecoins. The market oscillated between stringent regulation and speculative frenzy. The narrative of stablecoins 'pegging' to fiat currencies began to rise. During this period, major jurisdictions like the US, the EU, and Hong Kong successively introduced formal regulations, allowing banks to use stablecoins, approving Bitcoin ETFs, and enacting the MiCA framework. Regulatory attitudes appeared to shift. The crypto market narratives centered on “compliance and digital US dollar”, with prices breaking historical highs. In the lens of classical quantity theory, cryptocurrency prices could rise almost without a ceiling due to limited supply.

Notably, in July 2025, the US Congress passed the Guiding and Establishing National Innovation for U.S. Stablecoins Act (commonly known as the GENIUS ACT), which was signed into law by the President. This marks marked a pivotal shift in the US regulatory philosophy and policy framework for cryptocurrencies. The core provisions of GENIUS ACT require stablecoins to be fully backed 1:1 by liquid assets such as US dollars or US short-term treasury bonds, mandate that issuers disclose reserve details monthly and undergo independent audits, and stipulate that only federally or state-licensed financial institutions can issue stablecoins. This legislation legalizes the identity of stablecoins, thereby providing further convenience and momentum for cryptocurrency ecosystem. Shortly thereafter, Hong Kong and the EU also passed stablecoin legislation. These developments suggest the onset of a new bullish cycle for cryptocurrencies.

Most work discusses the scenarios of cryptocurrencies and stablecoins application from technical and transactional efficiency perspectives, formal policy-oriented research remains scarce. The technology adoption perspective (Ante, 2025) cannot fully explain the already observed severe cyclical volatility and strong crypto community cohesion, while theoretical critiques on cryptocurrencies often overlook their real-world demand and functional resilience within specific institutional environments. Krause (2025) pointed out that Bitcoin and digital assets have demonstrated a degree of persistence at institutional and market levels in recent years, suggesting that early criticisms from economists may have been overly pessimistic. This conclusion seems to represent a narrative turn in academic perspectives on cryptocurrencies, from criticism towards acceptance.

We view the rise of cryptocurrencies as a successful movement of narrative construction regarding decentralization and other themes. The narratives are fundamentally different from traditional fiat currency backed by sovereign credit, and should be treated as an endogenous variable within the currency system. Stablecoins, acting as a bridge for the further legitimization of cryptocurrencies and an exchange institution between the two currency systems, may intensify this process. This is a currency narrative competition far beyond general

financial innovations. It may evolve into a great game concerning the foundation of currency trust, financial technological paths, and the future global financial order.

2. Literature Review

The concept of currency competition was first proposed by Hayek (1997), who envisioned a market where private institutions can freely issue competitive currencies, positing that good currency with stable value would eventually drive out bad currency. This is regarded by many cryptocurrency proponents as its classical theoretical cornerstone. In the context of cryptocurrencies, Rogojanu and Badea (2014) and Sanches (2018) have revisited this framework, positioning Bitcoin as a competitive challenger to the fiat monopoly. Marple (2021) further refined this by suggesting an ecological differentiation, where stablecoins, CBDCs, and decentralized cryptocurrencies occupy different functional niches. Win (2025) explicitly characterizes this as an asymmetric contest for dominance against the US dollar system. These studies largely treat currency choice as a rational optimization of transaction costs, not paying much attention to the sociopsychological drivers behind the adoption of assets while implicitly treating users' beliefs and preferences as exogenously given.

Nobel laureate Robert Shiller's theory of narrative economics offers a new analytical paradigm for currency competition. This theory posits that a narrative is an account of a simple story or event—it can be an informal comment, a legend that may not withstand scrutiny, or even a joke with obvious flaws. However, narratives (e.g., supportive words from opinion leaders like Elon Musk) can spark concern, arouse emotions, and even form consensus, driving specific market outcomes and financial dynamics. Shiller thinks that simple yet emotionally resonant economic narratives influence public beliefs, expectations, and ultimately economic decisions. The dynamics of narrative diffusion can be modeled using epidemiological contagion models (SIR models). Narrative economics provides novel explanations for various market dynamics and economic phenomena, and Shiller (2017) himself applied the narrative economics framework to analyze the Bitcoin phenomenon, suggesting that early Bitcoin adherents emerged based on a narrative about a future currency. He emphasized that its price fluctuations are largely narrative-driven and questioned the sustainability of Bitcoin's value. Just as Schaus (2017) suggested, from shells to gold, and then to fiat currency, every store of value relies on a collectively accepted story about scarcity, acceptability, and future purchasing power.

Almost paralleling with Shiller’s work, recent research have adopted a narrative view to analyze the essence of cryptocurrencies. Coeckelbergh and Reijers (2016) were among the first to define cryptocurrencies as narrative technologies, arguing that their value lies not only in technical function but also in their ability to carry and disseminate specific stories about future society, trust, and power. Regarding narrative contents and effects, Vidan and Lehdonvirta (2019) delved into how Bitcoin continuously maintains its “trustlessness” narrative through technical means and community discourse, arguing that it is itself an active narrative work. Faria (2022) found that when public confidence in the value preservation and stability narratives of traditional currency wavers, the new stories about value, trust, and sociality

offered by cryptocurrencies can attract users. Brichta (2025) revealed that the value of cryptocurrencies is largely driven by bottom-up narratives within communities, such as memes, jargon, and shared beliefs. These studies complement with Shiller's view very much.

Market trend and corresponding research, to quite much degree, indicate that the emergence and diffusion of various cryptocurrency narratives are driven by motives such as expanding audience size and increasing market value. Narratives compete with each other for audience attention. Although the concept of narrative competition is not explicitly proposed, Shiller's discussion of narrative diffusion mechanisms and other related studies implicated its existence. Akerlof and Shiller (2009, 2015) and Akerlof and Snower (2016) noted that politicians, financiers, and marketing experts frequently manipulate narratives, and the public tends to think according to these narratives and believe good things will happen, thus their economic decisions are influenced by narratives. Eliaz and Spiegler (2020) formally analyzed competing narratives, noting that various narratives vie to shape public beliefs and enter into competitive relationships with each other, providing a static economic analysis framework for narrative competition. Bokhari (2024) used agent-based modeling to simulate how competing opinionated narratives in financial markets can endogenously generate severe market volatility. While these studies do not directly focus on cryptocurrency domain, they provide an important methodology enlightenment for our research.

In summary, cryptocurrency's emphasis on belief and consensus mechanisms echoes the narrative economics view and inspires an analytical framework of narrative competition for achieving consensus. The SIR model proposed by Shiller captures the dynamics of single-narrative diffusion without explicitly incorporating narrative competition into the analysis; The research by Eliaz and Spiegler and Bokhari did not fully address the dynamic mechanisms of narrative competition. The currency narrative competition framework combines currency competition theory and narrative economics, offering a more comprehensive lens to insightfully analyze the impact and challenges posed by cryptocurrencies and stablecoins to the international currency system and financial order.

3. Currency Narrative Competition Model

Supported by state law, fiat narrative is underpinned by the payment and clearing infrastructure composed of central banks and commercial banking systems, which provide services like a unit of account and medium of exchange for economic activities. Basically, the audience for fiat narrative has permeated society since the emergence of states; fundamentally, fiat narrative is a state narrative. When fiat narrative base shakes—such as during the hyperinflation in the Weimar Republic and many other cases—public belief can collapse rapidly with currency narratives. This indicates that even fiat currencies and their narratives are not immutable; they face potential competition from alternative currency narratives.

The anti-establishment, scarcity, and techno-utopian narrative of Bitcoin and other cryptocurrencies constitute a powerful and highly contagious currency narrative system that competes with the traditional fiat narrative. Cryptocurrency narratives target and expand upon

the weaknesses of fiat narrative. For instance, the digital gold narrative counters inflation, the decentralization narrative counters financial censorship, the peer-to-peer electronic cash narrative counters transactional intermediation frictions, and the open-source and transparency narrative counters policy opacity. Specifically, stablecoin narrative appears simple yet subtle: by pegging to fiat currencies like the US dollar, it becomes an exchange channel between cryptocurrencies and fiat currency. It not only injects crucial liquidity into the crypto ecosystem but, more importantly, grants cryptocurrencies legitimate dollar pricing. These factors boosted cryptocurrency market and illustrate that the mechanism behind cryptocurrencies lies in how their narratives erode and compete with fiat narrative. This is a competition for winning over the audience that originally believed in fiat currency. Table 1 shows that cryptocurrency narratives can compete with fiat narrative across multiple dimensions.

Table 1. Key Dimensions of Narrative Competition between Fiat and Cryptocurrencies

Competition Dimension	Fiat Narrative	Cryptocurrency Narrative
Core Narrative	unit of account, means of payment.	Digital gold, decentralization, a fair, transparent, and autonomous currency.
Value Source Narrative	Sovereign credit and taxation authority.	Digital scarcity (e.g., Bitcoin's 21 million cap), consensus, and technical protocol.
Trust Narrative	The central bank and legal system to maintain currency stability and order.	Open-source code, cryptography, and decentralized consensus algorithms; "Code is Law".
Governance Model Narrative	Centralized governance by central banks and governments.	Decentralized governance; consensus among community; protocol rules are public and transparent.
Philosophical Foundation	currency as an expression of state sovereignty, a policy tool for societal goals.	Currency should be a neutral technical protocol, "be your own bank."
Narrative Weaknesses/ Points of Attack	Inflation, financial censorship, policy opacity.	Price volatility, network congestion, technical security risks.

This framework of currency narrative competition implies the existence of a “narrative market”. In this market, cryptocurrency and fiat narratives compete for audiences. Currency narrative competition is thus the process of competitive diffusion between among numerous potential adopters who accept, reject, or abandon specific currency narratives. Therefore, and also for the sake of simplicity in modeling, the size of the audience base serves as a proxy for the adoption scale of the cryptocurrency and fiat narratives. Crucially, because the value of cryptocurrencies is driven primarily by consensus rather than fundamental cash flows, the expansion and contraction of this audience reflect the decisive outcome of the narrative

competition, thereby mapping directly onto the cyclical volatility observed in cryptocurrency markets. The dynamics are illustrated in a simple stock-flow diagram as Figure 2.

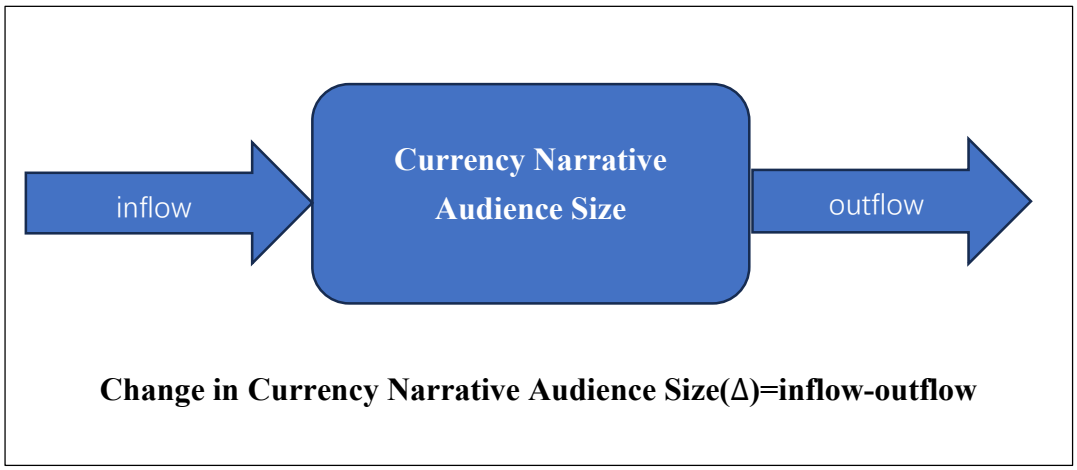


Figure 2. Change in Currency Narrative Audience Size

Figure 2 visually represents the change of audience size for fiat or cryptocurrency narratives by in and out flow mechanism. The general dynamics can be modeled using a Logistic equation:

$$dM(t)/dt = rM(t) + bM^2(t) = M(t)[\, r + bM(t)\,] \qquad (1)$$

$M(t)$ is the audience size of the currency narrative at time t. r is the intrinsic growth rate ($r > 0$) or trust decay rate (r < 0) of the narrative audience. The term $rM(t)$ represents the natural growth (or decay) rate of the narrative audience, corresponding to inflow (or outflow). b is the coefficient of internal influence on the growth of the narrative audience size. The term $bM^2(t)$ represents the effect of internal interactions within the narrative on its own growth rate. When $b > 0$, it indicates a positive influence among the audience during growth, corresponding to a net inflow. When $b < 0$, it indicates a negative influence among the audience during growth, corresponding to a net outflow. The maximum audience size K is achieved when $dM(t)/dt = 0$, which is $K = -r / b$.

Unlike Shiller (2017) using an epidemic model (SIR) to describe the diffusion of a single narrative, we pay attention to interaction between the two narratives based on the Logistic equation, establishing a dynamic model under currency narrative competition. $B(t)$ and $F(t)$ represent the audience sizes of cryptocurrency narrative and fiat narrative, respectively. For cryptocurrency narrative, $r_1 < 0$ is the natural trust decay rate of cryptocurrency narrative in a natural state, because the expansion of cryptocurrency narratives require "nourishment" provided by fiat narrative (e.g., its fintech and innovation narrative). The term $r_1 B(t)$ is the decay of cryptocurrency narrative, indicating that cryptocurrency narrative cannot grow out of nothing; it requires “soil and nutrients” provided by fiat narrative, such as its technology and

innovation aspects. $b_{11} < 0$ represents the coefficient of internal interaction within the crypto narrative, capturing factors like increased network congestion and transaction fees from too many users, longer confirmation times, diluted returns (e.g., declining mining annualized returns with more participating capital), and diluted attention (e.g., numerous crypto projects competing for limited developer, user, and capital attention). The term $b_{11}B^2(t)$ represents the effect of interactions within cryptocurrency narrative audience. $a_{12} > 0$ represents the coefficient of fiat narrative's influence on the growth rate of cryptocurrency narrative audience size, denoting the positive impact of fiat narrative on the crypto narrative. The effect is represented by $a_{12}F(t)B(t)$. Based on equation (1), the dynamics of cryptocurrency narrative audience size become:

$$dB(t)/dt = B(t)\,[\,r_1 + b_{11}\,B(t) + a_{12}\,F(t)\,] \qquad (2)$$

The narrative competition can therefore be constructed. On one hand, fiat narratives including increased government regulation, restrictive policies, central banks improving payment systems to reduce potential trust decay, and shaping public opinion through official media heeding crypto risks, are actually all competing against cryptocurrencies. On the other hand, there are inclusive innovation narratives like moderate regulatory attitudes, policies encouraging fintech innovation, even radical experiments like some small economies adopting cryptocurrency and recent US GENIUS ACT move, all nourishing crypto narrative growth. So despite of the intrinsic decay ($r_1 < 0$), crypto narratives actually prey upon fiat narrative to expand.

For fiat narrative, let $r_2 > 0$ represent the natural growth rate (or trust decay rate) of the audience under ideal conditions without resource constraints or external competition. Its magnitude depends on natural population growth in the economy. Each new generation is incorporated into the existing fiat system (e.g., through birth registration, national education, opening a first bank account), thus becoming new audience for fiat narrative. And, internal interactions exist within fiat narrative. When there are too many participants in the fiat system, and the convenience it provides (e.g., stable purchasing power, interest rates) diminishes due to rising marginal costs of financial services, inflation and stricter regulation and scrutiny. This inhibits the unlimited growth of the group size. Let $b_{22} < 0$ represent the coefficient of internal influence on the growth of fiat narrative audience size; it indicates a promoting or inhibiting effect within the audience during growth. So the term $b_{22}F^2(t)$ represents the effect of internal interactions within fiat narrative on its own growth rate.

The strengthening of the crypto narrative weakens the exclusive legitimacy of fiat narrative at the level of public opinion and perception. $a_{21} < 0$ represents the coefficient of cryptocurrency narrative's influence on the growth rate of fiat narrative audience size, denoting the "predatory effect " of the crypto narrative on fiat narrative audience. This includes belief conversion when crypto adopters successfully persuade fiat believers to switch sides, capital flight from the banking system into crypto markets weakening the fiat system's foundation. The term $a_{21}B(t)F(t)$ represents the impact of cryptocurrency narrative on the change in fiat narrative audience size. Thus, the dynamics of fiat narrative audience size are:

$$dF(t)/dt = F(t)\,[\,r_2 + b_{22}\,F(t) + a_{21}\,B(t)\,] \qquad (3)$$

Equations (2) and (3) form a system of nonlinear differential equations:

$$\begin{cases} \frac{dB(t)}{dt} = B(t)[r_1 + b_{11}B(t) + a_{12}F(t)] \\ \frac{dF(t)}{dt} = F(t)[r_2 + b_{22}F(t) + a_{21}B(t)] \end{cases} \qquad (4)$$

This system is clearly a variant of the Lotka-Volterra (L-V) model. Here, cryptocurrency narrative corresponds to the predator role, and fiat narrative corresponds to the prey role. Performing a steady-state analysis on this dynamic system, the condition for achieving a dynamic competitive equilibrium between the two currency narrative audience sizes is:

$$\begin{cases} \frac{dB(t)}{dt} = 0 \\ \frac{dF(t)}{dt} = 0 \end{cases} \qquad (5)$$

Obviously, the extreme solutions (0, 0), $(-r_1/b_{11},\ 0)$, and $(0,\ -r_2/b_{22})$ are three solutions of the system. Generally, $-r_1/b_{11} = K_B$ represents the social carrying capacity for cryptocurrency narrative, and $-r_2/b_{22} = K_F$ represents the social carrying capacity for fiat narrative, denoting the maximum audience size a society can sustain, compatible with the current economic and financial structure. Considering the scenario of coexisting currency narratives in dynamic equilibrium, where $B(t) \neq 0$ and $F(t) \neq 0$, the system (5) simplifies to a linear system:

$$\begin{cases} r_1 + b_{11}B(t) + a_{12}F(t) = 0 \\ r_2 + b_{22}F(t) + a_{21}B(t) = 0 \end{cases} \qquad (6)$$

Solving system (6), the general solution for the equilibrium point is $B* = (r_1\,b_{22} - r_2\,a_{12})\,/\,(a_{12}\,a_{21} - b_{11}\,b_{22}), F* = (r_2\,b_{11} - r_1\,a_{21})\,/\,(a_{12}\,a_{21} - b_{11}\,b_{22})$. Thus, how the system dynamics reach the equilibrium point can be discussed based on the specific parameter values.

Clearly, the values of parameters r_1 and r_2, b_{11} and b_{22}, a_{12} and a_{21} will all affect the evolutionary outcome of the currency narrative competition. The signs of a_{12} and a_{21} can reflect various competitive (or cooperative) relationships between the narratives. When cryptocurrency narrative gains a substantial audience and even begins to erode the dominant position of fiat narrative, it continues to capture audience from fiat narrative, exhibiting a predator-prey relationship with it. Thus, the theoretical model of currency narrative competition is constructed. This model reflects the predatory competition relationship between cryptocurrency and fiat narratives, making the deeper mechanism of currency competition evolution apparent.

Thus far, the analysis has not explicitly accounted for stablecoins. In fact, stablecoins, as special cryptocurrencies, provide legitimacy for cryptocurrency system through full fiat collateralization. They act as a communication channel between cryptocurrencies and the fiat system, with their institutional and legal significance outweighing technical innovation. If policy and regulatory green light is given, the bridging role of stablecoins becomes more prominent. In this framework, we make a critical distinction between policy discourse and policy implementation. While regulatory rhetoric functions as a narrative competing for public consensus, the actual enactment of legislation (such as a ban or the GENIUS ACT) functions as an exogenous structural shock. Unlike organic narrative diffusion which evolves continuously, these policy shocks discontinuously alter the intrinsic competitive parameters of the system (e.g., the predation coefficient a_{12} or the trust decay rate r_1), thereby fundamentally shifting the equilibrium landscape of the game.

First, full collateralization by stablecoins equivalently provides legitimacy for cryptocurrencies, thereby boosting confidence among their narrative audience, enhancing the growth potential and resilience of cryptocurrency system. By providing liquidity and unit of account services, stablecoins allow the entire crypto ecosystem to accommodate more users, handle more transactions, and attract more capital, reducing its belief decay rate. In the model, this is represented by an increase in the value of r_1 for cryptocurrencies (though its absolute value decreases), and also an increase in its social carrying capacity K_B.

Second, stablecoins are internal infrastructure for cryptocurrency system, providing a reliable and efficient medium of exchange. They enable the evolution from a system centered solely around Bitcoin as a store of value to a self-circulating financial system. More capital can be utilized effectively, more users can participate, and more applications can be built, greatly expanding the network externality of cryptocurrencies (the absolute value of b_{11} decreases), thereby increasing their social carrying capacity K_B.

The last but not least, stablecoins further reduce switch cost between cryptocurrencies and fiat currency, strengthening the influence of cryptocurrency narrative on fiat. In the model, the emergence of stablecoins can be formalized as changes in competition coefficients (a_{12} and a_{21}), the intrinsic growth rate of cryptocurrencies, and the market carrying capacity parameters. The lowered barrier for capital moving from fiat to crypto system enhances the competitiveness of cryptocurrency narrative (a_{21} increases), making crypto narrative stronger; it weakens the suppression capability of fiat narrative (a_{12} decreases), because when users can circulate within a large economy denominated in stablecoins, the effectiveness of suppression such as restricting bank deposits is significantly reduced.

Thus, we have constructed a model of narrative competition between fiat currency and cryptocurrencies. By adjusting parameters and initial values, the model can be used to analyze cryptocurrency market conditions under different regulatory tightness levels and after the introduction of stablecoins. This model breaks from the logic of single-narrative diffusion models, introduces a narrative competition analytical framework, highlights the hidden competitive structure between fiat and cryptocurrency narratives, and can yield insightful

analytical results along this research line, potentially informing the governance and regulation of crypto markets.

4. Analysis of Currency Narrative Competition Evolution

Policies of the US, Hong Kong, and the EU regarding cryptocurrencies and stablecoins indicate that these global financial centers and major economies appear to be validating cryptocurrency narratives, thereby enhancing narrative competitiveness of cryptocurrencies, attracting and further expanding the audience for cryptocurrency narratives. Based on the model above, by selecting appropriate parameter combinations $(r_1, r_2, b_{11}, b_{22}, a_{12}, a_{21})$ and initial values $(B(0)\ and\ F(0))$ according to the actual situation, phase analysis and time-series simulation analysis of currency narrative competition can be conducted to verify and judge the mechanism of currency narrative competition and its outcome trajectory. For the case involving stablecoins, parameter changes can reflect their impact on the fiat and cryptocurrency narratives themselves and their interrelationship, thereby allowing observation of changes in the system's evolutionary outcome. Therefore, following the chronological order corresponding to Figures 1 mentioned earlier, the analysis can be performed for three scenarios: weak regulation, strong regulation, and the introduction of stablecoins.

(1) Currency Narrative Competition under Weak Regulation

For the period after the emergence of cryptocurrencies (2009-2012), which was essentially a phase of regulatory absence, currency narrative competition approximated a theoretical autonomous system. Parameters and initial values can be selected based on the actual situation, as shown in Figure 3. For example, cryptocurrency narrative strongly relies on fiat narrative's aspects of technology and innovation; fiat narrative factually supports cryptocurrency narrative; cryptocurrency narrative captures fiat narrative audience more rapidly; and cryptocurrency narrative is inherently fragile compared to fiat narrative.

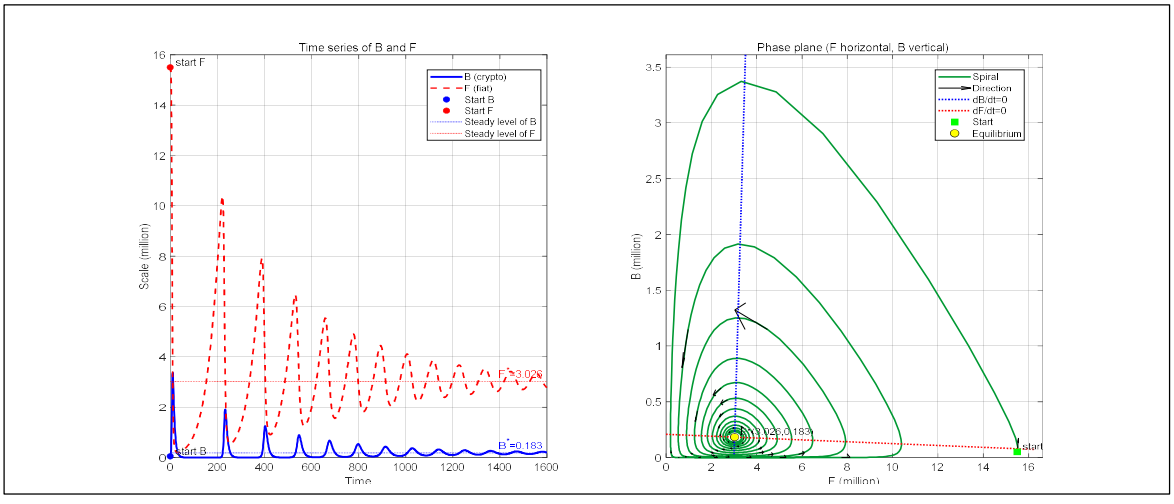


Figure 3. **Currency narrative competition under Weak Regulation($r_1 = -0.15, b_{11} = -0.007, a_{21} = -0.12$; $r_2 = 0.025, b_{22} = -0.001, a_{12} = 0.05$; $B(0) = 0.05, F(0) = 15.5$)**

The evolution chart on the left shows that currency narrative competition produces cyclical oscillations, with a cycle length of approximately 250 units time. The phase portrait on the right shows that starting from the initial position, the two currency narratives periodically converge towards the equilibrium point $E*$. This convergence occurs because $b_{11} + b_{22} < 0$, generating stabilizing negative feedback. Initially, cryptocurrency narrative expands rapidly, showing a trend to overwhelm fiat narrative; fiat currency encounters a "narrative trust" crisis, and its audience size decreases rapidly. In the phase space, this is manifested as the system dynamics spiraling towards convergence from the initial position along the arrow direction. The amplitude of system fluctuations shown in the time evolution graph, and the extreme situations near the coordinate axes in the phase space, are untenable for a foundational concept like currency. It can be seen that after a certain period (roughly 1500 units time in the time evolution graph), the system converges to an equilibrium level. Both the fiat and cryptocurrency narratives have their own stable audience sizes, with fiat narrative audience size still far larger than that of cryptocurrency narrative (3.026 >> 0.183). At this point, fiat narrative remains the mainstream currency narrative, its status substantially unchanged; cryptocurrency narrative retreats from initial frenzy to a relatively stable level but exists as a currency narrative, completing the transformation from non-existence to existence.

This analysis also indicates that currency narrative competition have endogenous cycles without exogenous shocks, providing a dynamic mechanism explanation for the early "bull-bear" cycles in the crypto market. In the phase space, there are even situations where the size of either narrative approaches zero. The number of spirals corresponds to the number of cycles in the time evolution, reflecting the endogenous volatility and its extremity under weak regulation. This also shows that the dramatic swings of the crypto market are not solely dependent on external shocks or irrational bubbles, the dynamic mechanism inherent in the nonlinear interaction between fiat and cryptocurrency narratives is also an important cause. Furthermore, although fiat narrative ultimately remains mainstream, its absolute size decreases from 15.5 to 3.026, indicating a significant decline in audience size, suggesting that cryptocurrency narrative has a long-term impact on fiat currency. This impact is the deep reason prompting regulatory intervention.

(2) Currency Narrative Competition under Strong Regulation

When cryptocurrency narrative becomes rampant, begins to rapidly erode fiat narrative audience size, and accumulates a considerable narrative audience, the evolving trend will lead regulators to recognize the adverse effects of cryptocurrencies on financial order, subsequently introducing strict policy measures that significantly impact cryptocurrency market. The early stage of currency narrative competition can be extracted from Figure 3. During the period 0-10 (which could correspond to the years 2013-2018), the crypto narrative audience size grows explosively, while fiat narrative audience base is significantly shaken and declines rapidly. It

is understandable that strong regulation was highly likely to occur during this period, so initial values can be selected near this time.

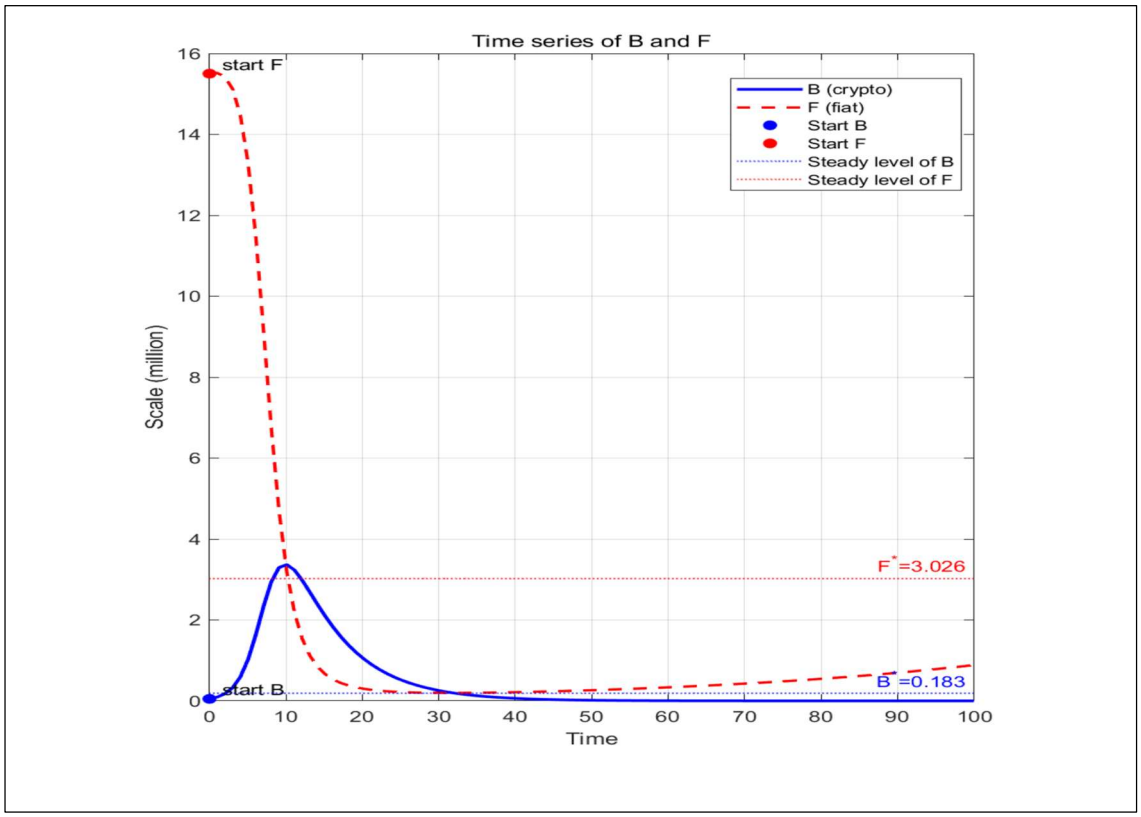


Figure 4. Early Stage (0-100) Time Evolution under Weak Regulation (Parameters same as Figure 3)

In Figure 4, when the ratio of cryptocurrency to fiat narrative audience sizes changes rapidly, strong regulatory policies are enacted. At this point, the two currency narratives are no longer in their initial state; a quantitative change in their relative sizes occurs, significantly altering the landscape of currency narrative competition. Strong regulatory policies will inevitably change the relevant parameters in the model, mapping the objectives of the regulatory policies. Both the initial levels of two narrative sizes and the relevant parameter values change. Due to strong regulations, the trust decay rate of cryptocurrency narrative increases (the absolute value of r_1 increases), its internal inhibitory effect also increases, and its erosive effect on fiat narrative decreases (the absolute value of a_{21} decreases). For fiat currency, by enhancing stability and service quality, its internal inhibition effect is reduced (the absolute value of b_{22} decreases); the technology and innovation elements within fiat narrative continue to "nourish" and support cryptocurrency narrative, but less permissively and accommodatively than before, manifested as a decrease in a_{12} though it remains positive. The results are shown in Figure 5.

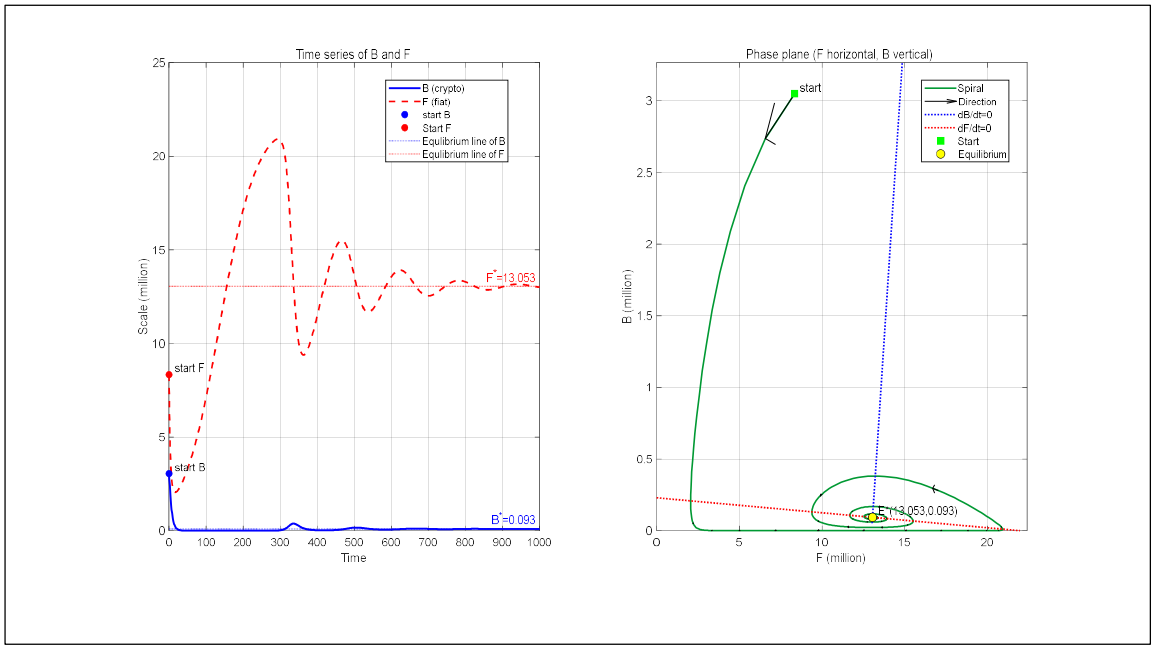


Figure 5. Currency narrative competition under Strong Regulation($r_1 = -0.195, b_{11} = -0.0085, a_{21} = -0.087$; $r_2 = 0.02, b_{22} = -0.00091, a_{12} = 0.015$; $B(0) = 3.05, F(0) = 8.34$)

In Figure 5, it can be seen that due to the implementation of strong regulatory policies, the size of cryptocurrency narrative quickly falls back to a low level. The oscillation period is about 200 units time, significantly lower than before regulation, which can reflect the actual situation of cryptocurrency market during the strong regulation period. Simultaneously, fiat narrative is also impacted initially, and currency narrative competition market experiences short-term depression, with significant trust decay evident for both narratives. Subsequently, trust in fiat narrative recovers, and its audience size climbs rapidly. Currency narrative competition under strong regulation reaches equilibrium relatively quickly, with fewer spiral cycles in the phase space, reflecting the expected goals and effects of regulation.

(3) Currency Narrative Competition after the Introduction of Stablecoins

The time evolution chart in Figure 5 shows that during the strong regulation period, as both narrative sizes initially decrease rapidly and the market is in a state of contraction and depression, the introduction of stablecoins during this period is reasonable (corresponding to the period 2019-2025). This also provides the window for initial values under the scenario of introducing stablecoins. As analyzed above, the essence of introducing stablecoins lies in legitimizing cryptocurrency narrative in a regulatory sense. This legitimization, in turn, changes the relevant parameters of currency narrative competition: the intrinsic trust decay rate of cryptocurrency narrative decreases (the absolute value of r_1 becomes even lower than during

the weak regulation period); the absolute value of b_{11} decreases further due to more legitimate and convenient transaction infrastructure; and the asymmetric influence between them (a_{12} *and* a_{21}) also changes, becoming more complex.

If fiat currency "co-opts" cryptocurrencies to a certain extent, while fiat narrative maintains self-inhibition ($b_{22} < 0$), selecting appropriate parameters and initial values yields results as shown in Figure 6. It can be observed that currency narrative competition converges to an equilibrium state after a long period, but this process is full of oscillations and fluctuations, with a cycle duration of about 200 units, but the time to reach equilibrium is longer. Moreover, the absolute sizes of both narratives shrink over time, implying a decrease in trust for the system as a whole, also reflecting the profound impact of cryptocurrency narrative on the entire system. Although the results show the mainstream status of fiat narrative is maintained, the final equilibrium outcome relative to the initial level can be described as "both sides lose", as the narrative sizes at equilibrium are lower than the initial levels.

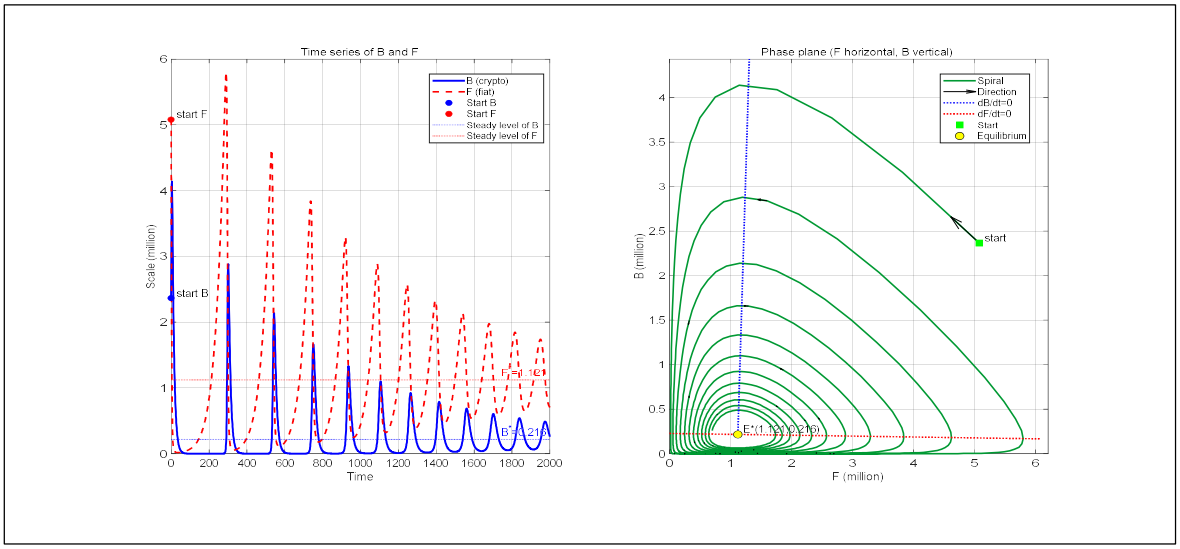


Figure 6. Convergent Cyclical Oscillation ($r_1 = -0.10, b_{11} = -0.004, a_{21} = -0.11$; $r_2 = 0.025, b_{22} = -0.0011, a_{12} = 0.09$; $B(0) = 2.365, F(0) = 5.08$)

If fiat currency, due to co-opting cryptocurrencies, drastically improves transaction efficiency, leading to the disappearance of its internal inhibition and instead turning into internal promotion ($b_{22} > 0$), then under some parameter combinations the equilibrium point E* becomes unstable, and the trajectory enters divergent cyclical oscillations, as shown in Figure 7. Compared to convergent oscillations, divergent cyclical spirals exhibit large-amplitude oscillations persistently, reflecting the alternating process of "bull market surge - bear market collapse" in cryptocurrency market. By enhancing conversion efficiency and reducing trust decay rate, stablecoins shift the system from a "stable equilibrium" to one of "cyclical fluctuation," pushing the market into a higher-intensity endogenous cycle.

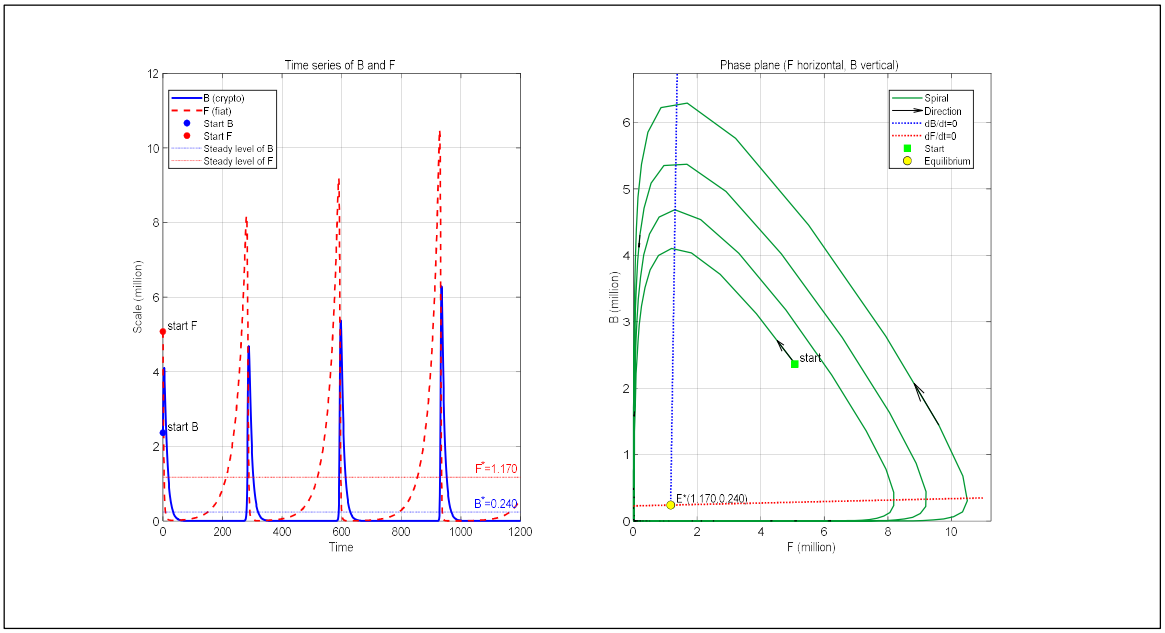


Figure 7. Divergent Cyclical Oscillation($r_1 = -0.10, b_{11} = -0.0027, a_{21} = -0.11$; $r_2 = 0.025, b_{22} = 0.0012, a_{12} = 0.086$; $B(0) = 2.365, F(0) = 5.08$)

The results in Figures 6 and 7 show that stablecoins change both the position and the nature of the equilibrium point. The stability they bring is limited to liquidity and ease of use within the crypto system; for the entire system, while stablecoins locally enhance the acceptability and resilience of the crypto narrative, they systemically push the equilibrium point towards instability, thereby exacerbating overall cyclical fluctuations and potentially becoming a cause of periodic instability. The "bull-bear cycles" of the crypto market originate from the internal logic of narrative competition, rather than relying entirely on external shocks.

The analysis under the three scenarios indicates that the rise of cryptocurrencies and stablecoins pushes the currency system into a stage of competitive evolution characterized by technological and institutional narratives. Its dynamics are determined by various parameters in the model, which correspond to factors such as technological algorithms, institutions, and regulatory policies. Furthermore, the analysis also reveals that stablecoins may act as risk amplifiers for currency narrative competition. By bridging the interface between fiat and cryptocurrencies in a technical and legal sense, stablecoins enhance the predation efficiency and population resilience of cryptocurrency narrative, potentially pushing a system that might otherwise tend towards stable coexistence into a state of more violent and frequent cyclical oscillations.

In the analysis, the audience size of cryptocurrency narrative is highly sensitive to changes in various parameters. Its market price is highly driven by narrative competition, exhibiting

significant narrative fragility. For example, narratives about early popular concerns like 51% attacks or the impact of quantum computing on existing encryption technologies would change some parameters. This fragility risk stems not only from potential technical or asset-level flaws or imbalances but is also manifested in the sudden breakdown of the narrative trust system. For instance, when reserve authenticity is questioned or regulatory intervention occurs (like the USDT incident), the stablecoin narrative can transform from a rational safe haven to a source of institutional risk, potentially triggering a chain reaction of trust collapse. Therefore, even for the massive market capitalization of the crypto market, one cannot assume it is "too big to fail". The time evolution and phase space diagrams both indicate that currency narrative competition inherently contains huge volatility risks.

It is clear that the model analysis essentially assumes a closed single economy and uniqueness of fiat currency in the model, obviously not the truth of competition among different currency sovereignties. To address the complex geopolitical reality of currency competition, we need relax the assumptions in consideration to a globalized context. Then the currency narrative competition undergoes a drastically structural transformation. The competitive parameters (a_{12}, r_1, b_{22}) cease to be exogenous; instead, they become endogenous outcomes of a strategic game between multiple nations. A "Race to the Bottom" emerges as sovereign jurisdictions engage in regulatory arbitrage, competitively lowering barriers to attract mobile crypto-capital and "innovation gains". This creates a feedback loop where the aggressive deregulation by one economy forces others to reciprocate, leading to a simultaneous, global maximization of predation efficiency (a_{12}) and a minimization of the trust decay rate (r_1).

Racing to the bottom introduces a higher order of complexity and risk. While "individual rationality" suggests that a single nation can gain a comparative advantage by serving as a crypto-haven, this behavior generates a "collective irrationality" that destabilizes the global financial system. Mathematically, this uncoordinated convergence creates a "Tragedy of the Commons" effect on global financial stability. The Commons—the aggregate capacity of the global fiat system to absorb narrative shocks—is over-grazed by the unbridled expansion of the crypto narrative. The result is not merely a shift in equilibrium, but a fundamental degradation of the system's stability conditions. This geopolitical race pushes the global financial order into a domain of permanent, high-amplitude instability, where the localized volatility of the crypto market is amplified into systemic fragility across the global economy.

5. Conclusions and Policy Implications

From the perspective of narrative economics, the trajectory of cryptocurrencies from marginal obscurity to a multi-trillion-dollar asset class represents a typical case of narrative diffusion. This process is latent behind a narrative competition that directly challenges the natural monopoly of fiat currency. Within the analytical framework proposed in this paper, fiat and cryptocurrencies are conceptualized not just as assets, but as interacting species competing for the finite resources of public attention and trust. Whenever volatility happens, there underlies some narrative competition.

Crucially, this model demonstrates that the extreme volatility of the cryptocurrency market is not merely a reaction to external news or speculative bubbles, but a structural inevitability derived from the predatory logic of narrative competition. The bull-bear cycles of the crypto market is not solely driven by exogenous shocks or irrational bubbles. Rather, it is rooted in the intrinsic, nonlinear competitive logic of the two narrative systems. Our analysis indicates that this competition generates endogenous oscillations; extreme scenarios within this model point toward potential outcomes that are structurally unbearable for the real-world economy. Therefore, the risks associated with cryptocurrencies are not financial risks in the ordinary sense, but intrinsic instability risks of the narrative consensus itself. Regulating this sector implies navigating a potential "Great Reset" of the global financial order, requiring regulatory insight that goes beyond traditional prudential supervision to understand the complex dynamics of belief formation.

Moreover, the model analysis suggests that currency narrative competition inevitably evolves into a contest over national currency sovereignty, triggering a strategic game among nations. This game may include:1) regulatory dominance, which is the struggle to define global standards;2) currency substitution, which is the challenge of the borderless “crypto-dollarization” eroding the monetary sovereignty of weaker economies;3) infrastructure competition, which is the contest between traditional clearing systems like SWIFT and decentralized crypto settlement layers. Each kind of game involves a direct clash of narrative power. With the proliferation of diverse currency narratives, the fiat system may have to withstand the test of competition through self-consistency and functional superiority.

In policy sense, maintaining financial stability in a currency narrative competition requires a proactive rather than reactive stance. Since narrative competition flourishes where fiat currency shows weakness including inflation, opacity etc., the most defensive choice of fiat currency is to strengthen the intrinsic value proposition in its narratives. A central bank needs to reinforce the foundational trust in sovereign credit through sound policy, directly addressing the “inflation hedge” narrative of crypto. The introduction of Central Bank Digital Currencies (CBDCs) should not be framed merely as a monitoring tool, but as a public sector innovation. By addressing payment frictions and financial inclusion—areas often exploited by the crypto narrative—CBDCs can compete on functional merits, thereby recalibrating the competitive landscape. By establishing clear perimeters—such as compliant on/off-ramps and consistent tax treatment, authorities can manage the intensity of currency narrative competition without stifling financial innovation.

For global governance, the model calls for prudence and coordination of crypto currency regulation. This does not mean we are against cryptocurrencies so much while in favor of fiat. The US regulatory approach (GENIUS ACT) appears to leverage stablecoins to extend the dominance of the US Dollar. The government seemed not conservative this time. From a collective action perspective, this is a bit unilateralism. By prioritizing the short-term liquidity benefits of a "crypto-dollar", the regulatory choice might not have fully accounted for the pervasive impact on dollar reputation as international currency. It risks acting as a coercive force on cryptocurrency policies of other nations, forcing them to react defensively. If major economies pursue "individual rationality", such as offering regulatory havens or co-opting

crypto for national hegemony, it may lead to "collective irrationality"—a race to the bottom in regulatory standards. This uncoordinated landscape creates a "tragedy of the commons" where global financial systemic risks accumulate stealthily.

Global financial stability is a public good that extends beyond national borders. The rise of borderless digital currencies is a shared challenge posed to the entire state-based currency system. Global governance should be grounded in the logic of collective action. Through multilateral institutions such as the Bank for International Settlements (BIS) and the Financial Stability Board (FSB), a global consensus on minimum standards for stablecoins—covering reserves, transparency, and cross-border resolution—is essential. The objective is to establish a "regulatory meta-narrative" that reconciles innovation with stability, preventing regulatory arbitrage and safeguarding the integrity of the global financial system against the destabilizing effects of currency narrative competition.

References:

Akerlof, G. A., & Shiller, R. J. (2015). *Phishing for phools: The economics of manipulation and deception*. Princeton University Press.

Akerlof, G. A., & Snower, D. J. (2016). Bread and bullets. *Journal of Economic Behavior & Organization, 126*, 58–71.

Almosova, A. (2018). *A note on cryptocurrencies and currency competition* (IRTG 1792 Discussion Paper). Humboldt University of Berlin.

Ante, L. (2025). From adoption to continuance: Stablecoins in cross-border remittances and the role of digital and financial literacy. *Telematics and Informatics, 97*, 102230.

Bokhari, A. (2024). Competing narratives in financial markets: An opinionated agent-based model for simulating volatility. In *International Conference on Agents and Artificial Intelligence* (pp. 147–170). Springer Nature Switzerland.

Brichta, M. (2025). *From memes to currency: The vernacular economics of cryptocurrencies* (Doctoral dissertation). University of Southern California.

Coeckelbergh, M., & Reijers, W. (2016). Cryptocurrencies as narrative technologies. *ACM SIGCAS Computers and Society, 45*(3), 172–178.

Eliaz, K., & Spiegler, R. (2020). A model of competing narratives. *American Economic Review, 110*(12), 3786–3816.

Faria, I. (2022). When tales of currency fail: The importance of price, trust, and sociality for cryptocurrency users. *Journal of Cultural Economy, 15*(1), 81–92.

Hayek, F. A. (1976). *Denationalisation of money: An analysis of the theory and practice of concurrent currencies*. Institute of Economic Affairs.

Krause, D. (2025). Were the leading economists' criticisms of crypto wrong? A current examination of Bitcoin and digital assets. *Journal of Economic Perspectives, 39*(2), 45-67.

Marple, T. (2021). Bigger than Bitcoin: A theoretical typology and research agenda for digital currencies. *Business and Politics, 23*(4), 439–455.

Rogojanu, A., & Badea, L. (2014). The issue of competing currencies: Case study–Bitcoin. *Theoretical and Applied Economics, 21*(1), 103–114.

Sanches, D. R. (2018). Bitcoin vs. the Buck: Is currency competition a good thing? *Philadelphia Economic Insights*. Federal Reserve Bank of Philadelphia.

Schaus, M. (2017). Narrative and value: Authorship in the story of currency. *Journal of Cultural Economy, 10*(2), 11-23.

Shiller, R. J. (2017, May 21). What is Bitcoin really worth? Don't even ask. *The New York Times*, p. BU6.

Shiller, R. J. (2019). *Narrative economics: How stories go viral and drive major economic events*. Princeton University Press.

Shiller, R. J. (2020). Narrative economics: How stories go viral and drive major economic events. *Panoeconomicus, 67*(2), 257–263.

Vidan, G., & Lehdonvirta, V. (2019). Mine the gap: Bitcoin and the maintenance of trustlessness. *New Media & Society, 21*(1), 42–59.

Win, H. (2025). Disrupting dollars: Bitcoin's challenge to traditional economics. *Nature Economics, 3*(1), 3–15.