Economic Anthropology

RESEARCH ARTICLE

Virtual Pets, Real Precarity: Crypto Gaming as Speculative Labor in Inflation-Ridden Cuba

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ABSTRACT

This article examines how *Axie Infinity*, a play-to-earn crypto game, became a precarious source of income for young Cubans amid an ongoing economic crisis. Against the backdrop of the COVID-19 pandemic, intensified US sanctions, and a destabilizing currency reform, Cuba has faced severe shortages, runaway inflation, and growing social unrest. In this context, *Axie Infinity* offered an unexpected digital lifeline: Players could earn income by battling and trading blockchain-based assets, gaining rare access to the global crypto economy. Yet participation required significant upfront investment and often depended on exploitative scholarship arrangements that reproduced existing racial, class, and gendered inequalities. Drawing on long-term ethnographic fieldwork in Havana and Matanzas, this study traces how Cuban players navigated complex onboarding processes, technical barriers, and informal exchange networks to transform in-game earnings into usable currency. It argues that play-to-earn games embed financial speculation into everyday life, blurring distinctions between work and play and between formal and informal economies. By combining insights from the anthropology of play and digital labor, the article theorizes serious play as a moralized and monetized practice—one that conceals precarity behind gamified interfaces and reward systems. In doing so, it complicates celebratory narratives about blockchain as a vehicle for financial inclusion and instead reveals how these platforms extend speculative capitalism into new and deeply unequal terrain.

1 | Introduction

The fluorescent glow of Andy's 27-in. monitor cut a sharp rectangle into the dim back bedroom of his mother's apartment in Matanzas. Two electric fans whirred above the clatter of afternoon rain, pushing against the heat that gathers when the power holds. On-screen, three pastel-colored, Pokémon-like creatures—an olive green "Plant," a fox-tailed "Beast," and a bubble-gummed "Aqua"—stood in formation, blinking expectantly while the system dealt each side six digital cards. Andy's fingers hovered over the mouse, tapping a rhythm against the tabletop as he murmured the card stats in English under his breath—"Carrot Hammer, Nut Crack, Risky Fish." When the timer flashed orange, he made his move: a quick chain of Nut → Risky → Carrot, meant to break the opponent's shield and generate one extra "energy" for the next round. The Aqua critted—an improbable 120-point strike—and Andy pumped both fists into the air, then laughed at his own exuberance. "Eso es suerte pura"—pure luck. The Arena refilled, and for another 15-min bout, the wider uncertainties of Cuba's inflation receded behind the bright, looping choreography of digital pets doing battle.

After the match, Andy checked his Ronin Wallet, where his newly earned SLP—Smooth Love Potion, the platform's native cryptocurrency—was stored. Once he was allowed to withdraw them, he planned to swap them for USDT, a dollar-pegged stablecoin, by arranging a trade on a private Telegram channel with a verified local broker. This month's goal was modest—enough to put food on the table for himself, his girlfriend, their parents,

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and their son. “Es poco,” he shrugged, “pero es algo.” It's not much, but it's something.

While Cuba was entering one of its most dramatic economic crises in decades, many tech-savvy young Cubans discovered an unexpected (and volatile) economic lifeline: *Axie Infinity*, a play-to-earn crypto game that took large parts of the Global South by storm. Developed by the Vietnamese company Sky Mavis, *Axie Infinity* allowed players to breed and battle digital creatures—called “Axies”—represented as nonfungible tokens (NFTs) stored on the blockchain, earning cryptocurrency rewards. These assets could also be bought, sold, or traded, effectively turning gameplay into a form of speculative labor. During the pandemic, *Axie* became a global phenomenon, enabling players in countries like the Philippines, Venezuela, and Indonesia to earn hundreds of dollars per month—often more than their national median wages—at a time when local income opportunities were disappearing (Elliott 2021; Nunley 2021; Tani and Venzon 2021).

While marketed as entertainment, platforms like *Axie Infinity* demand a form of *serious play* in which leisure becomes labor and digital environments are transformed into sites of economic speculation. This blurs the boundary between work and recreation as players engage in repetitive, emotionally charged, and financially motivated activities—not for enjoyment but often as a means of survival. Building on the anthropology of play and gaming (Boellstorff 2006; Malaby 2007; Turner 1982) and scholarship on the collapse of boundaries between labor and leisure (Gregg 2011; Kücklich 2005; Scholz 2012), this article argues that gamified economies in crisis contexts transform play into a monetized and moralized practice. These systems frame participation as entrepreneurial opportunity and personal responsibility while masking extraction behind the aesthetic veneer of fun.

While Victor Turner (1982) famously described play as “serious” because of its liminal and transformative potential—disrupting social structures and revealing alternative modes of being—this article departs from that symbolic framing. In the context of *Axie Infinity*, seriousness is not ritual or metaphorical but material and moralized. Players engage in play not to subvert reality but to survive within it. Serious play here denotes a mode of gamified labor that carries real financial stakes, demands strategic discipline, and moralizes participation as self-reliant effort. This reframing shifts the focus from play's symbolic potential to its embeddedness in speculative and unequal digital economies.

Beyond revisiting anthropological theories of play, this analysis also complicates dominant understandings of digital labor. Play-to-earn platforms do not merely incentivize engagement; they fuse play with investment and embed financial risk into everyday interaction. This produces new, often precarious, forms of economic and social organization. While concepts such as gamification (Robson et al. 2015) and playbor (Kücklich 2005) describe how gamelike mechanisms are used to extract free labor or enhance productivity, play-to-earn models go further: they build speculation into the mechanics themselves, allowing players to accumulate and trade volatile in-game assets. This speculative dimension fundamentally reshapes how value is produced—and how play is felt. Participants must navigate risk, market fluctuations, and algorithmically mediated competition, making these systems not merely games but complex arenas where gambling, labor, and entertainment converge.

Importantly, these dynamics were not confined to the individual level. They gave rise to new, bottom-up social and economic arrangements that mimicked labor markets in surprising ways. Most notably, the emergence of the so-called scholarship system—a decentralized workaround to the prohibitively high cost of participation—formalized relationships between asset-owning investors and resource-constrained players. At the peak of the game's popularity in mid-2021, even the cheapest team of three Axies—the minimum required to play—cost approximately US$1000. To bypass this barrier, wealthier players and companies began lending their Axie teams to others in exchange for a large share of the in-game earnings. These investor–player arrangements were framed in the language of scholarships, with participants labeled as scholars—a term that evoked mentorship, education, and opportunity while obscuring the stark asymmetries in power, risk, and reward.[1] Over time, these relationships became institutionalized through gaming guilds that managed recruitment, training, and performance tracking. The repurposed educational vocabulary suggested a structure of support, but in practice, these systems often resembled digital piecework economies—ones in which wealthier players, often based in the Global North, exercised considerable control over the labor, time, and earnings of their recruits.

In theory, blockchain-based Web3 platforms promote decentralization, transparency, and collective ownership. In practice, however, *Axie*'s model reproduced deeply uneven power relations. Asset owners frequently demanded long hours, retained disproportionate shares of player earnings, and imposed strict performance metrics. In Cuba, these dynamics were compounded by geopolitical constraints: Because of US sanctions, players were blocked from most centralized crypto exchanges and had to rely on informal networks—often via Telegram—to convert tokens into usable fiat currency. Ironically, while blockchain technologies were designed to eliminate intermediaries and foster “trustless” transactions (Brunton 2019; Golumbia 2016; Swartz 2018), Cuban players had to create new forms of trusted mediation to navigate the restrictions of a hostile financial landscape.

Despite these constraints, players demonstrated significant agency. They built grassroots solidarity networks, shared onboarding strategies, and even trained others—transforming limited access into collective knowledge. For many, *Axie* was not just a game or a job but a rare opportunity to participate in the global digital economy. Some players, like Andy, ultimately even became asset owners themselves, flipping their positions within the speculative hierarchy they had once worked beneath.

Our findings contribute to anthropological scholarship on informal economies and adaptive strategies under conditions of economic precarity (Elyachar 2005; Guyer 2004; Han 2012; Muir 2021), while also engaging critically with the promises of blockchain advocates. Proponents of decentralized technologies often portray them as transformative tools for financial inclusion and empowerment in the Global South. They argue that blockchain can provide banking and credit access to the unbanked (Kshetri 2023; Tapscott 2020; Tapscott and Tapscott 2016), serve as a hedge against inflation (Domjan



FIGURE 1 | A team of Axies purchased through our cooperative model.

et al. 2021), reduce corruption through "trustless" systems (De Filippi and Wright 2018), support humanitarian interventions like refugee aid (Zwitter and Boisse-Despiaux 2018), and democratize asset ownership via fractionalization, thereby unlocking capital for marginalized populations (Adams et al. 2018).

While influential in shaping policy discourse and investment narratives, these claims frequently rest on speculative assumptions rather than grounded evidence. In what follows, we challenge these assertions by showing how blockchain-based platforms like *Axie Infinity* reproduce existing inequalities and embed new forms of precarious labor—particularly in contexts like Cuba, where access to infrastructure, capital, and digital networks remains profoundly uneven.

2 | Fieldwork in A Gamified Crisis Economy

This article draws on long-term ethnographic fieldwork with *Axie Infinity* players in Havana and the provincial capital of Matanzas, where a particularly active gaming community had formed. Our initial contact came through Nestor's cousin, who introduced us to a network of players in mid-2021. Fieldwork was conducted between June 2021 and May 2022, covering the rise and eventual crash of *Axie Infinity*'s in-game economy. During this period, the game became deeply entangled with Cuba's unfolding economic crisis. The COVID-19 pandemic had devastated the tourism industry—one of the island's main sources of foreign income—while tightened US sanctions under the Trump administration further restricted remittances, trade, and international access. In January 2021, a major internal shock came with the elimination of Cuba's dual currency system, which triggered runaway inflation and sharply reduced the purchasing power of ordinary citizens (Vidal and Luis 2024).[2] Amid growing scarcity, rolling blackouts, and social unrest—including the largest protests since the Revolution—*Axie Infinity* emerged as an unlikely, if fleeting, means of sustenance.

Over the course of our fieldwork, we conducted in-depth interviews and participant observation with 19 players. To better understand the lived experience of the game, we also purchased a team of Axies and began playing ourselves. This immersive approach helped us grasp the emotional rhythms and speculative pressures that structured play, from early excitement to frustration, burnout, and disillusionment. One outcome of this engagement was the creation of an experimental intervention we called the *Axie Gamer Cooperative*. Inspired by the solidarity and mutual aid practices we observed, we offered our team to a promising Cuban player under radically different terms than the typical "scholarship" model. The player was granted co-ownership of the Axies and retained 60% of earnings, while the remaining 40% went into a shared fund used to acquire a new team for future players. This cooperative model challenged the extractive dynamics common in most gaming guild structures by redistributing both profits and control. It also served as a methodological tool for exploring alternative economic imaginaries and more equitable digital labor arrangements (see Köhn and Siré 2024; see also Figure 1).

In winter 2023–24, we returned for follow-up conversations with several of our original interlocutors and conducted additional interviews with three new players who had joined after the

initial market crash, engaging with the updated *Axie Infinity: Origins* version. These follow-up interactions allowed us to trace how players adapted to the platform's shifting reward systems and economic downturns, offering longitudinal insight into the changing affective and financial stakes of participation.

From the outset, it was clear that access to *Axie Infinity* was stratified along existing social and racial lines. The player base largely reflected the demographic makeup of Havana's tech and gaming communities: predominantly young, male, and from families with at least some access to remittances, private enterprise, or state-sector positions that facilitated access to digital infrastructure. While Afro-Cubans were not formally excluded, long-standing structural inequalities—especially in access to foreign currency, equipment, and constant internet access—meant that the game was far more accessible to white Cubans. Our fieldwork confirmed this skew: Most players we interviewed were phenotypically white and benefited from familial or institutional connections that allowed them to enter the crypto ecosystem in the first place.

As scholars such as Hope Bastian (2018) and Hansing and Hoffmann (2020) have shown, socioeconomic divisions in contemporary Cuba are deeply racialized. White Cuban families are more likely to receive remittances from relatives abroad, many of whom descend from the prerevolutionary elite, while Afro-Cubans are disproportionately represented in substandard housing and neighborhoods less attractive to tourism—further limiting their access to dollar-based income streams like Airbnb. These inequalities were reproduced rather than challenged in *Axie Infinity*'s digital economy, where participation hinged on financial entry points, technical literacy, and access to reliable internet.

Gender dynamics were also notable. While a small number of women participated in the platform, they were largely absent from positions of technical authority, asset ownership, or guild leadership. This mirrors broader patterns within global gaming and tech cultures, where women—especially in the Global South—face multiple forms of exclusion and undervaluation. The result in Cuba was a highly skewed ecosystem of participation that reflected and reinforced existing hierarchies, even as the platform itself was marketed as open, decentralized, and inclusive.

3 | Onboarding and the Scholarship System

The revolutionary economic aspect of crypto games is that they allow players to speculate on the value of their in-game assets. These games thrive on a highly hype-driven environment, fueled by strong community engagement and social media buzz, making them especially prone to rapid shifts in asset values influenced by news, influencer endorsements, game updates, or developer adjustments to the game economy (which is often designed to be either inflationary or deflationary based on player activity, which can create scarcity and significantly impact prices).

All game resources and items are "tokenized," allowing them to be owned, traded, and monetized by players on open, peer-to-peer markets. *Axie Infinity* operates with two tokens: Axie Infinity Shards (AXS), a governance token that enables holders to vote on game decisions, earn staking rewards, and conduct transactions within the ecosystem, and SLP, a utility token used for breeding Axies, earned through gameplay, and traded on crypto exchanges. AXS has a capped supply, which creates scarcity and potential value, while SLP is inflationary, with its supply fluctuating based on player activity and demand. Sky Mavis (2021), the company behind the game, has published a white paper that describes *Axie Infinity* as

> a new type of game that rewards players for the time and effort they spend both playing the game and growing the ecosystem. Axie has a 100% player-owned, real money economy. Rather than selling game items or copies, the developers of the game focus on growing the player-to-player economy. Marketplace fees go into a Community Treasury whose usage will be guided by AXS holders. The developers monetize through their ownership of AXS tokens. Axies are created by players using in-game resources (SLP & AXS) and sold to new/other players. You can think of Axie as a nation with a real economy. The holders of the AXS token are the government that receives tax revenues.

Sky Mavis thus holds a complex role within the *Axie Infinity* ecosystem. Like a central bank, the company has significant influence over the game's economic policies, including the supply and management of in-game tokens, and it plays a crucial part in maintaining the stability and growth of the game's economy. It sets the rules and parameters for token issuance, adjusts mechanics that impact the economy (such as breeding costs), and oversees key aspects of the ecosystem's financial health. However, unlike a traditional central bank, Sky Mavis does not have regulatory oversight, transparency, or accountability to a broader public beyond its governance structure involving AXS holders. Its primary goal is to maintain and grow the player-driven economy within the game rather than to manage a national currency or control monetary policy in the traditional sense, making its role more aligned with a combination of a governing authority and a major stakeholder in a self-contained, player-owned economy.

During the course of our research, *Axie Infinity* experienced a meteoric rise in the number of daily active players, which exploded from fewer than 300,000 in June 2021 to more than 2 million in October 2021 (Axie Infinity Blog 2021). In the same month, Sky Mavis was valued at nearly US$3 billion. Starting in spring 2021, we began hearing more frequent discussions about the game from our young research participants in Havana, whose digital practices we were studying (Köhn and Siré 2022).

At the beginning of the hype, almost all the early adopters of the game we met were on scholarships and did not own their own Axies. A detailed analysis of the *Axie* economy by the game's research and consulting firm Naavik (Stone et al. 2021) found that between 60% and 65% of players were scholars during this period. The game's terms of service restrict players from using multiple accounts simultaneously, so the only legitimate way

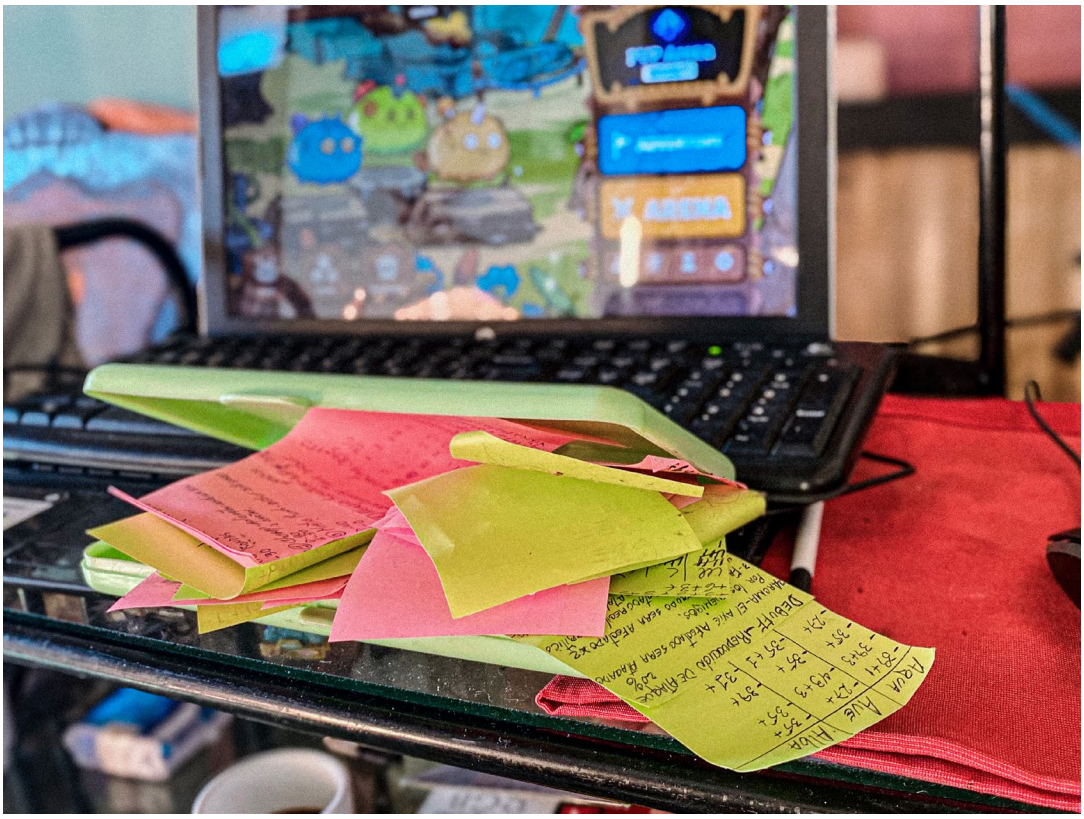


FIGURE 2 | An Axie Infinity scholar's study notes.

for wealthier players to make use of their virtual Axies, apart from playing themselves, was to become sponsors and lend their Axies to money-poor but time-rich scholars.

Cuban players learned about the game through their favorite Latin American social media influencers and secured their scholarships via platforms like Discord and Telegram, where these owner–worker relationships are organized transnationally. Axie owners or gaming guilds seek experienced participants and select scholars based on interviews and entry exams that test their knowledge. However, because it is not possible to play the game without owning a team, Cuban players had to learn the game theoretically by studying the PDF guidebook and memorizing the different game cards used in battles.

As Andy (24), who eventually managed to buy his own team of Axies, describes (see also Figure 2),

> First, you study the theory. The practice comes when you have a scholarship. I studied a lot; I spent about a month studying before I got my first team, before I got my first scholarship. I took three tests and failed all of them. You go to Discord groups where they test you; they put out questionnaires. Then they make a video call and select a certain number of people. Back then, the guidebook was only in English, so I had to translate it word for word. But then I started watching gameplays to learn. I watched many streamers and many YouTubers playing and explaining what they are doing.

Once they received a scholarship, players had to go through a complicated, time-consuming, and technically demanding setup process. Because *Axie Infinity* could not be downloaded from regular app stores like Google Play or the Apple App Store, they had to download it directly from the official *Axie Infinity* website or use alternative methods.[3] Users also had to set up a Ronin Wallet, a cryptocurrency wallet specifically designed for the *Axie Infinity* ecosystem, to store their SLP earnings. Owing to Cuba's restricted internet environment and sanctions-related limitations on certain blockchain and crypto services, players often had to use a VPN to ensure stable access and functionality, especially for transactions involving the Ronin Bridge or interactions with other blockchain platforms that ban access from Cuba.

Because the demand for scholarships in the online forums was so high, prospective scholars outdid themselves presenting themselves as hardworking, honest, and responsible even to be invited for an interview. Claudia (23) from Matanzas described the process like this:

> They'll start by asking you personal questions like, "Where are you from? Why do you like the game? Why are you interested in it? Do you have kids? Are you married?" They want to know more about you before they introduce you to the game. They can't just give a scholarship to someone who knows nothing about it; they need to make sure you're genuinely interested and won't make them lose money. They also need to be confident that you know how to play. It's okay to



FIGURE 3 | A match between two teams of Axies in the game's Arena mode.

> I lose a match here and there, but you can't keep losing every game, or else neither of you will earn anything.

The play space of *Axie* was thus structured not just by market logics but by a kind of moral economy that demanded players to show productivity, discipline, and responsibility that they learned to internalize. The oversupply of young, tech-savvy prospective scholars lacking meaningful employment opportunities during the pandemic fueled a rentier-based system in which owners of productive virtual assets held significant leverage over scholars, taking large cuts of the players' earnings. This system reflected broader North–South economic dynamics, where exploitation is perpetuated by disparities in currency valuations and income levels, facilitated by unequal access to technology and financial resources, exacerbated by a lack of labor protections and oversight, and sustained by inadequate government regulation and enforcement.

4 | Everyday Gameplay and Labor Conditions

Axie investors further used their power over scholars by requiring them to play for several hours daily, with their performance under constant scrutiny—either through surveillance software tracking players' activities and their percentage of wins or by coaches hired by Axie owners to provide training but also to monitor scholars' progress. In Juan's (25) guild, players even competed in two leagues and, like football team players, could be relegated based on their performance. Those who did not meet the required targets were quickly replaced by other eager players, creating a precarious labor market defined by a ruthless hire-and-fire dynamic.

Axie Infinity features two main modes of play. In Arena mode, players battle one another using teams of three Axies in turn-based matches that require strategic card play and resource management. Adventure mode, by contrast, involves fighting computer-controlled enemies in a linear progression. Many players expressed dislike for the game's graphics and mechanics, often describing gameplay as boring and repetitive, especially in the "Adventure" mode. Interlocutors also referred to the game as a grind because many scholarships provided only mediocre teams of Axies, with owners investing the bare minimum. This often involved splitting the energy—a resource in *Axie Infinity* that limits the number of matches players can earn rewards from—among multiple teams, leaving scholars to slog through with subpar accounts that severely limited their potential for success and earnings. For many Cuban players, the experience of gameplay was thus marked not by excitement but by boredom and exhaustion. While game design literature frames grinding as a motivational loop that rewards commitment, for our interlocutors, it blurred the line between play and work entirely. The language of gamers—"grind," "leveling up," "energy"—mirrored that of productivity apps and platform work (Figure 3).

These dynamics exemplify gamification, the use of gamelike elements to shape behavior in nongame contexts (Robson et al. 2015). In *Axie*, however, gamification does not simply increase engagement; it obscures labor by recasting it as play. Yet, for Cuban players, the facade of enjoyment was often thin, especially as the stakes rose. Success required memorization, strategic investment, and hours of gameplay under surveillance-like conditions. The speculative nature of the economy intensified this seriousness, as players weren't just performing but betting on their labor.

5 | Agency, Solidarity, and Resistance

Given the stark power imbalance between the investors, who hold significant control and financial stakes, and the scholars, who depend on volatile earnings under restrictive conditions, the promise of a decentralized, player-owned economy in Sky Mavis's white paper ultimately resembled a new form of digital serfdom. Rather than alleviating inequalities, it perpetuated

existing economic disparities by centralizing control and profit potential in the hands of a few, while players faced precarious conditions and limited autonomy. As the scholarship system centralizes so much power with the NFT asset owners, scholars further faced the risk of being defrauded or scammed. As Elian (22), a player from the Cerro neighborhood in Havana, explained

> They simply tell you, "I have a new scholarship, I'll give you one at 70/30, which is the most favorable scholarship you can get." You take the scholarship, play, but you don't have any security—you only have the password, not even the email. The owners have everything. They can just take over the account whenever they want. They change the password and take everything from you. Everything you earned, they keep it all. You have no way to complain. They block your number, and then you have no way to contact them ever again.

Such instances of abuse and scams were so prevalent that the official *Axie Infinity* Discord servers were filled with warnings, urging players to thoroughly vet scholarship providers just as rigorously as they are vetted by them. Players were advised to contact other scholars to confirm they are receiving their pay or use the Discord search function to check if the owner has been reported for misconduct previously.

Facing multiple burdens—including the risk of fraud, economic uncertainty, and the challenge of navigating technical complexities—*Axie Infinity* scholars devised various strategies to assert their agency through solidarity and self-organization. Despite it being technically prohibited, many players managed multiple accounts using several devices, often borrowed from family members, to maximize the economic opportunities presented by the game. Cuban players, especially those outside the capital, faced the additional challenges of frequent power outages and unstable internet connections. To mitigate these issues, they strategically used their multiple accounts during periods of electricity and improved connectivity, typically available at night and in the early-morning hours.

Skilled players, who generated the highest returns, leveraged their bargaining power to negotiate a higher share of their earnings and actively shape their working conditions. Additionally, they organized on platforms like Discord and Telegram, where they shared knowledge of game mechanics and marketplace dynamics. Scholars would warn each other about scammers and exploitative scholarship conditions and often provided assistance to inexperienced players. As Antonio (22) from Matanzas stated,

> I created this group with these two girls who were in the same guild as me. I noticed on the leaderboard, which was updated daily, that they were always at the bottom, and I thought they might be interested in learning more about the game. At the time, I was the second-highest performer and I saw that these girls were struggling. We started as a small group of three, and then a friend of mine joined. He was in a 20% scholarship, which I find exploitative. So, I helped him find a better scholarship and brought him into the group to support him as well.

Whereas play is conventionally seen as free, improvisational, or oppositional (Boellstorff 2006; Turner 1982), *Axie Infinity*'s environment inverted that logic. Players described play as morally and economically charged: Time spent in the game was not wasted but weighed against earnings and social obligations. For players like Antonio, helping others succeed in the game became a moral imperative, part of an emerging solidarity economy.

This resonates with Laura Bear's (2020) framing of speculative labor as a "technology of the imagination"—a means of enacting future possibility under duress. In this sense, play became serious, not only because of the money at stake but because of the futures it promised or foreclosed. Gamified speculation was not a detour from Cuba's crisis but one of its most immersive terrains.

6 | Cashing Out and the Informal Crypto Economy

Cuban *Axie Infinity* players faced additional challenges when trying to convert their in-game earnings into spendable currency. While some scholars working for local Axie owners received their share of the earnings in cash, others were paid in SLP tokens directly to their Ronin Wallet and had to cash them out on their own, often needing to exchange them first for a more commonly used cryptocurrency. Owing to US sanctions that block major centralized cryptocurrency exchanges like Coinbase and Binance for users in Cuba, players couldn't use the Sky Mavis Ronin Bridge to send their SLP directly to these platforms. These restrictions forced them to rely on local informal networks for cryptocurrency trade that had emerged alongside runaway inflation. Amid this financial turmoil, many Cubans sought alternative currencies to protect their savings and manage daily transactions. Cryptocurrencies like USDT, a stablecoin pegged to the US dollar, have gained popularity for receiving remittances and facilitating cross-border payments, leading to a burgeoning black market that operates primarily through platforms like Telegram and WhatsApp. These markets have become so prevalent that *El Toque*, an independent news outlet based in Miami, began to publish the daily informal exchange rates not only for the dollar and euro but also for the most popular cryptocurrencies. These rates are determined algorithmically by bots that scrape buy and sell offers from major exchange groups.

These informal currency exchange groups have developed various mechanisms to facilitate trustworthy transactions. With participants from across Cuba, establishing trust was a significant challenge, as neither party wanted to be the first to send cryptocurrency or fiat money, fearing that their trading partner might not honor the exchange. This led to the emergence of new intermediaries to build trust. Some Telegram groups introduced escrow systems, where admins held funds from both parties for a fee (usually approximately 2%) until

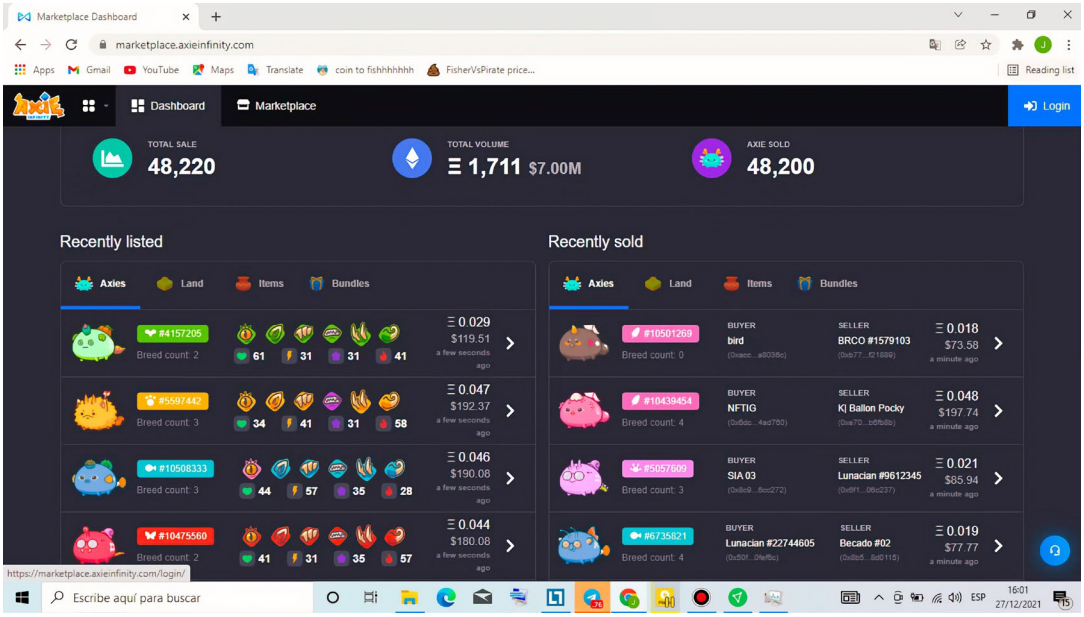


FIGURE 4 | Sky Mavis's official Axie marketplace.

the transaction was finalized. Others implemented VIP systems that grant trusted status to traders who have successfully completed multiple exchanges and provided personal information—typically a photo with their ID, an address, and a phone number—to the admin, along with paying a monthly fee. In the event of fraud, all group members are alerted with a message containing the fraudster's photo and information. This system is locally referred to as KYC, borrowing from the "know your customer" regulations that global centralized cryptocurrency exchanges were increasingly required to implement due to government pressure.[4] While these measures provide some level of security, they also contradict the libertarian ideals of crypto proponents, who envision a supposedly anonymous, disintermediating, and "trustless" blockchain economy in which code is law. In the local Cuban context, however, this economy relies heavily on middlemen and trust-based social networks.

7 | Speculation and the Hope Economy

Axie Infinity provided many Cuban scholars with a fluctuating but, at least temporarily, relatively reliable source of extra income. At the same time, it immersed them in a complex and fascinating global digital economy they would not typically have access to. Because most scholars received their earnings in the game's currency, they were naturally drawn into the speculative activities surrounding the game. During the summer of 2021, as *Axie Infinity*'s popularity surged and demand for Axies grew, the value of SLP spiked significantly. Because the game allowed cash-outs only every 14 days, players experienced firsthand how the value of their tokens could increase if they held off exchanging them. This dynamic illustrates a broader critique of the crypto economy, as highlighted by critics like Peter Howson (2023), who argue that NFTs and blockchain games serve primarily as tools to onboard more people into the crypto market. By funneling fresh "fiat" money into the system, these games enable large cryptocurrency holders to cash out, ultimately benefiting those at the top while perpetuating the cycle of speculation and volatility.

The dynamics of the *Axie Infinity* economy soon attracted wealthier Cubans, who saw it as one of the few investment opportunities available in a country largely isolated from international financial flows. We interviewed several local scholarship providers who had invested substantial sums—often funded by remittances from family members abroad—into multiple teams of Axies. For many Cubans, investing in cryptocurrencies and other high-risk ventures was not entirely unfamiliar, as several of our interlocutors had previously been involved in Trust Investing, a crypto-based pyramid scheme that had swept the island a few years earlier.

Besides earning through gameplay, some players generated additional income by breeding and flipping Axies. Breeding involved combining two Axies—ideally those with no prior breeding history to minimize costs—using in-game tokens SLP and AXS. If the resulting offspring had desirable traits, it could be sold at a profit, especially during peak market demand. Others engaged in flipping: buying undervalued Axies on the marketplace and reselling them at a higher price. While potentially lucrative, these strategies required careful market analysis, reliable internet access, and constant monitoring—conditions that were often difficult to maintain in Cuba (Figure 4).

Witnessing the often dramatic increases in the value of Axie NFTs and in-game tokens also prompted many young Cuban players with little financial experience or savings to transition from scholars to asset owners by saving their SLPs to eventually purchase their own Axies. This shift from employee to owner often led players to engage in increasingly risky speculative behavior. Scholars who discussed their investment plans with us during the summer of 2021 often calculated a return on investment within a couple of months. Nabil (23) from Matanzas explained his strategy like this:

> I noticed a lot of people buying more teams and keep investing their profits into new teams. They do this to keep growing. But if the game crashes, you could end up with nothing because you kept reinvesting instead of taking out your earnings. My plan is to first earn back what I invested, which should take about two to four months, depending on how well I do—like the more SLP I earn, the faster I'll break even. Once I've recovered my initial investment, I'll set that money aside. Then, with the extra profits, I'll think about investing in a new team.

Nabil—like many of our interlocutors—developed his strategies by closely following social media influencers and participating in online forums where players debated investment tactics and speculated on future price trends. Constant exposure to these discussions led many participants to overestimate their knowledge, skills, and control over speculative outcomes. This overconfidence often resulted in increased risk-taking, heightening the potential for financial losses as they navigated these ambiguous financial spaces with misplaced assurance in their abilities. For example, when the value of SLP suddenly dropped to a third of its previous value in August 2021, several of our research participants chose not to sell their SLP while the market was low or even saw this as an opportunity to "buy the dip," confident that the cryptocurrency would quickly recover (a strategy that many Axie influencers at the time recommended).

In our interviews, interlocutors often justified their risk-taking behavior by explaining that, as Cubans accustomed to living in constant crisis, they frequently had to make bold and risky decisions. They were not naive about the risks of speculation; many were well aware that their actions were essentially betting. However, they were driven by the small but real hope of achieving significant returns due to the high volatility of the market, which made their behavior seem rational, if precarious. Others rationalized their financial choices by referencing investment influencers who took pride in losing substantial sums of money as part of their learning curve, only to recover their losses through the next clever investment. When we revisited Pavel (26), an Axie investor from Matanzas, in December 2023—2 years after the *Axie Infinity* hype had begun to fade—he was very candid about his financial losses. Reflecting on his experience, he shared,

> In the first two weeks with my own team, I made about $210. I thought, "This is my world. I won't have to work anymore." I got caught in the cycle of thinking, "I'll save up to buy another account." But then things started to change. ... The first account cost me $1000; the next one $600; the next $200, and then $80. Clearly, something was wrong. Sure, I cashed out occasionally, but I reinvested most of it. I even ventured into other blockchain games and lost money there too. As I saw my losses piling up, I desperately tried to recover something. But you just keep losing. For a moment, you think you can make something if you get in early. Even if it's a scam or a Ponzi scheme, you think, "If I get in from the start, maybe I can pull something out."

For Pavel, as for many other small-time investors in the worldwide crypto economy, these high-risk strategies were intertwined with crypto's promise of a better life, as traditional avenues of economic and social advancement continued to diminish. In a context where prospects in the regular economy were rapidly dwindling, the allure of gaming the system and potentially striking it big was seen as one of the few viable paths to financial improvement, despite the inherent risks.

Axie Infinity's sudden steep decline in value reflected deeper issues within the game's economic model (for a detailed analysis, see Doucet 2022; Stone et al. 2021). One primary driver of SLP inflation was the imbalance between the supply and demand of the token: More SLPs were being generated than being "burned" in the game, primarily because many scholars, who made up the majority of the player base, cashed out their earnings daily rather than spending SLP on breeding new Axies. Additionally, the ever-growing population of Axies—exacerbated by the fact that Axies do not die and thus continuously accumulate—led to fewer new Axies being bred, further reducing the burning of SLP. The game's sustainability is also challenged by its dependency on the influx of new players, as the economic value of Axies, AXS, and SLP relied heavily on continuous growth and fresh money entering the system. As new player growth slowed after the hype in the summer of 2021, the game's revenue—and thus the value of in-game assets—declined, resembling the characteristics of a Ponzi scheme (Figure 5).

Axie Infinity's in-game inflation thus began to outpace the real-world inflation that had driven many Cubans to the game in the first place. In April 2022, another significant event contributed to the crash of *Axie Infinity*'s economy when the North Korean hacking group Lazarus exploited vulnerabilities in Sky Mavis's Ronin blockchain, the infrastructure that supports the game. The attack resulted in the theft of more than US$600 million worth of cryptocurrency, one of the largest in the history of decentralized finance (DeFi). This breach not only drained the game's liquidity but also severely damaged player and investor confidence in the platform's security. In response, Sky Mavis froze transactions on the Ronin network, which disrupted the flow of funds and hampered the in-game economy. The hack exposed the fragility of *Axie Infinity*'s economic model, where player trust and consistent financial transactions are crucial. As a result, the incident led to a sharp decline in user activity and a significant drop in the value of in-game assets, with SLP sinking more than 95% from its all-time high, contributing to a broader collapse of the game's economy. Because many investors we knew had purchased their teams when prices were at their peak, they ended up incurring significant losses. Some, who had borrowed money from friends or family to invest, left the game still in debt.

To address the crisis, Sky Mavis pledged to reimburse the stolen funds through a combination of internal funds, external investments, and raising additional venture capital. They further released a new version, *Axie Infinity: Origins*, that brought significant changes aimed at revitalizing the game and addressing



FIGURE 5 | Market trend of the highly volatile in-game cryptocurrency Smooth Love Potion.

its economic challenges. To attract more players, Origins introduced free starter Axies, allowing new users to play without an initial financial investment or scholarship. The *Origins* update made significant economic changes to address SLP inflation by eliminating monetary rewards from the low-skill, high-volume Adventure mode and concentrating earnings in competitive Arena battles. This shift aimed to stabilize the in-game economy and reward skill over repetition.

Additionally, Origins introduced changes to breeding costs and rewards, which sought to balance supply and demand for Axies. While this reduced the inflationary pressures on in-game tokens, the days when average players could make hundreds of dollars per month were over, and financial returns now depended on strategic investments in new tradable in-game assets, such as charms and runes, which provide extra abilities for Axies. When we reconnected with our main research participants in the winter of 2023, we were introduced to a new generation of players who had joined after the game's economic crash. These newer players explained that it was still possible to earn up to US$50 a month through regular play—a sum that, while modest, remains higher than the average monthly state salary in Cuba. Despite the significant time investment required to reach these earnings, many younger players expressed little concern. Several noted that they already spent hours each day navigating shortages and delays—waiting in long lines for food, medicine, or public transport, for example—and saw time spent gaming as a more productive or predictable alternative. As Raul (20) from Centro Havana put it, "I guess I play two or three hours a day. That's nothing, because two hours you can be standing there waiting for a bus."

His reflections highlight how structural inefficiencies and scarcity shape how time is experienced, managed, and made meaningful in contemporary Cuba. In this context, even modest earnings from *Axie Infinity* can feel worthwhile, particularly when compared to the uncertainty and frustration of other everyday activities. For many players, the game thus offered not just income but a sense of agency over how time was spent.

8 | Conclusion

Speculation, as Bear (2020) argues, has become a pervasive logic that transforms uncertain futures into material practices oriented toward both survival and profit. In the context of *Axie Infinity*, speculation unfolded not in traditional financial centers but in the homes of young Cubans grappling with economic collapse, infrastructural fragility, and geopolitical isolation. Crypto gaming brought the imperative to speculate into everyday life—blurring the lines between labor, leisure, and risk.

This article has shown how play-to-earn platforms like *Axie Infinity* extend speculative labor to new populations and domains, embedding financial volatility into ordinary activities. While the game was marketed as open and decentralized, participation hinged on unequal access to digital infrastructure, financial resources, and social capital. Our ethnographic data reveal how race, class, and gender hierarchies within Cuba—mirroring broader global patterns—shaped who could enter, endure, and benefit from the platform. Even as *Axie Infinity* promised inclusion, it reproduced exclusion through the very mechanisms that made it playable.

Central to these dynamics was serious play—a mode of engagement in which leisure became morally weighted, economically instrumental, and emotionally charged. Play in *Axie Infinity* was neither escapist nor frivolous but structured by responsibility,

survival, and speculation. Gamification mechanisms like leaderboards, daily tasks, and performance metrics framed labor as gameplay, concealing extraction behind the aesthetic and vocabulary of fun. This serious play was not imposed from above but internalized and performed by players navigating scarcity, inflation, and moral obligations to family and community. For many, playing *Axie Infinity* was a way of managing time, mitigating uncertainty, and enacting agency in a highly constrained environment.

Our findings challenge celebratory narratives about blockchain as a tool for democratization. While Cuban players demonstrated strategic creativity and collective resilience—sharing knowledge, resisting exploitative conditions, and building solidarity networks—their agency was exercised within narrow margins. The moral economy of play-to-earn rewarded risk-taking, discipline, and loyalty while punishing failure as personal miscalculation rather than systemic inequality.

Axie Infinity thus offers a critical window into the future of work: a world where financial speculation is gamified, where play becomes labor, and where participation is moralized as entrepreneurial hustle. In such environments, the boundaries between work and play, exploitation and enjoyment, collapse into complex and often contradictory experiences. As blockchain-based economies continue to proliferate, anthropology must pay close attention to the affective, ethical, and economic forms they generate—and to the deeply uneven terrain on which they unfold.

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Conflicts of Interest

The authors declare no conflicts of interest.

Endnotes

[1] The *scholar/scholarship* terminology originated within the *Axie Infinity* player community itself, particularly among early adopters in the Philippines, which was the first major hub of play-to-earn labor. It was not invented by Sky Mavis, the developer of *Axie Infinity*, but the company later adopted and endorsed the terminology, recognizing its widespread use and utility in describing the emerging digital labor arrangement.

[2] Before this reform, Cuba operated with a dual currency system: the Cuban peso (CUP) for domestic transactions and salaries and the convertible peso (CUC), which was pegged to the US dollar, for tourism, luxury goods, and international trade. This system allowed the government to regulate access to foreign currency and manage economic disparities. The reform, known as the Ordenamiento Monetario, eliminated the CUC and unified the currency by making the CUP the only official currency in use. As part of this reform, the CUP was devalued against the US dollar from its previously fixed official rate. This devaluation, coupled with the removal of the CUC, contributed to significant inflationary pressures, as the CUP's new exchange rate could not keep up with market forces, leading to a rapid loss of purchasing power and economic instability.

[3] *Axie Infinity* was initially unavailable on Google Play and the Apple App Store because of its integration of cryptocurrency transactions and blockchain technology, which conflicted with the app stores' policies. These platforms have strict guidelines for apps involving financial transactions and virtual items that can be exchanged for real-world value, leading to concerns about gambling, fraud, and regulatory compliance.

[4] These KYC regulations have driven Cuban users away from such platforms, as the US embargo prohibits these exchanges from conducting business in Cuba.

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