

Cryptocurrency Accounting and Financial Reporting**How Measurement Rules Affect Transparency, Profit, and Asset Values**Author: **Joseph Hneine¹***Affiliation:*

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Abstract:

Cryptocurrency creates an unusual financial reporting challenge because its market value can change quickly while accounting standards have historically treated it using categories designed for more traditional assets. This study examines how the measurement method can change reported asset values and profit even when the underlying cryptocurrency holding is exactly the same. A controlled case was created in which a company purchases 250 Bitcoin at \$40,000 each, experiences a temporary decline to \$28,000, and finishes the reporting period at \$65,000 per Bitcoin. The case compares a simplified version of the former U.S. cost-and-impairment approach with the fair-value model required for qualifying crypto assets under FASB ASU 2023-08. The results show a year-end carrying amount of \$7.0 million under the former impairment scenario compared with \$16.25 million under fair value, creating a \$9.25 million reporting difference. The period income effect also changes from a \$3.0 million impairment loss to a \$6.25 million fair-value gain. The study then relates these results to IFRS guidance, where IAS 38 or IAS 2 generally applies depending on the purpose of the holding. The findings show that measurement rules can strongly influence reported performance and comparability. Clear disclosure of the accounting basis is therefore essential when users analyze companies with material cryptocurrency exposure.

Keywords:

Cryptocurrency, Bitcoin, financial reporting, fair value, FASB, IFRS, accounting transparency

Introduction:

Cryptocurrency has moved from being a niche digital experiment to an asset held, traded, or accepted by a growing number of businesses. This creates a reporting problem that looks simple at first but becomes complicated very quickly: if a company owns Bitcoin, what number should appear on the balance sheet? The answer matters because Bitcoin can move sharply in value within a short period, while financial statements are expected to give investors a useful and understandable picture of the company.

For years, accounting rules did not have a dedicated model designed around cryptocurrency. Researchers found that companies used existing standards in different ways, which could make similar crypto holdings look different across financial statements. Luo and Yu (2024), for example, examined 40 global companies with cryptocurrency exposure and documented inconsistencies in recognition, measurement, presentation, and cash-flow classification. The issue is therefore not only how to account for crypto, but also whether the accounting treatment reflects its economic value clearly enough for users of financial statements.

The U.S. Financial Accounting Standards Board addressed part of this problem through ASU 2023-08. For crypto assets that meet the standard's scope criteria, companies now measure the assets at fair value each reporting period and recognize changes in net income. Under IFRS, however, the IFRS Interpretations Committee concluded that IAS 38 Intangible Assets generally applies to cryptocurrency holdings unless IAS 2 Inventories applies because the assets are held for sale in the ordinary course of business. This difference makes cryptocurrency a useful topic for a Reporting course because it connects accounting measurement directly to transparency and comparability.

The research gap addressed in this project is practical. Existing literature explains the accounting debate well, but students and financial statement users may still find it difficult to see how much the choice of measurement model can change the reported numbers. This study therefore uses one controlled numerical case and applies alternative reporting treatments to exactly the same Bitcoin holding. By keeping the economic facts constant, the project isolates the reporting effect.

Research Questions

- RQ1: How does fair-value reporting change the carrying amount of a cryptocurrency holding compared with a cost-and-impairment approach?
- RQ2: How strongly can the accounting model affect reported profit and total assets even when the company owns exactly the same cryptocurrency?
- RQ3: Does fair-value measurement provide a more current picture of the economic value of a liquid cryptocurrency holding?
- RQ4: What reporting and disclosure issues remain under U.S. GAAP and IFRS?

Research Objectives

- Compare the numerical reporting effects of alternative cryptocurrency measurement approaches.
- Show the effect on asset values and reported income using a transparent, reproducible case.
- Connect the numerical results to current U.S. GAAP and IFRS guidance.

- Identify practical limitations and disclosure considerations for financial statement users.

Literature Review:

The accounting literature has repeatedly pointed to a basic mismatch between traditional asset categories and the economic characteristics of cryptocurrency. Luo and Yu (2024) show that firms with crypto exposure have historically reported similar assets in different ways. Their study of 40 public companies found that the accounting choices can affect the balance sheet, income statement, and cash-flow statement, making comparisons more difficult for investors. They argue that the absence of a single global treatment can create distortions in reported liquidity, profitability, and asset values.

Stakeholder research reaches a similar conclusion, although there is debate about whether an entirely new standard is necessary. Studies of accountants, academics, professional bodies, and standard setters report concerns about the speed at which crypto products evolve and the difficulty of fitting every token into one accounting category. The broader lesson is that the economic rights attached to a crypto asset matter. A Bitcoin holding is not automatically the same accounting problem as a stablecoin, tokenized security, or non-fungible token.

In the United States, the FASB responded to concerns about the old cost-less-impairment model by issuing ASU 2023-08. The standard requires qualifying crypto assets to be subsequently measured at fair value, with changes recognized in net income. It also requires separate presentation and additional disclosures about significant holdings, including name, cost basis, fair value, and units. This is an important change because an increase in market value can now be reflected in the financial statements instead of remaining invisible until the asset is sold.

The IFRS approach remains different. The IFRS Interpretations Committee concluded in 2019 that IAS 2 applies when cryptocurrencies are held for sale in the ordinary course of business. Otherwise, IAS 38 generally applies. For broker-traders, IAS 2 can permit fair value less costs to sell. This framework is principles-based, but it also means that the accounting outcome can depend heavily on why the company holds the crypto asset and whether an active market exists for a possible revaluation approach under IAS 38.

Recent research continues to treat crypto reporting as more than a technical classification issue. The quality of measurement and disclosure can influence how users interpret risk and transparency. Auditing research also notes that crypto transactions introduce special challenges involving ownership, custody, valuation, private keys, exchanges, and evidence. These issues mean that even a fair-value number does not remove the need for strong internal controls and clear disclosures.

Governance, Data Analytics, and AI in Financial Auditing

The transition toward transparent cryptocurrency reporting does not occur in a vacuum; it is fundamentally tied to an organization's internal data culture and corporate governance. Accurately tracking highly volatile digital assets requires robust big data analytics and knowledge management capabilities, which are essential for driving product development and maintaining overall financial performance (Azoury et al., 2024; Subrahmanyam et al., 2024). When organizations integrate blockchain technology or cryptocurrency, they frequently face significant macroeconomic disruptions and regulatory uncertainty; navigating these Industry 4.0 disruptions demands highly adept technological analytics and smart decision support systems (Bejjani et al., 2024; Subrahmanyam & Beainy, 2027). Furthermore, ensuring the integrity of financial reporting for digital assets relies heavily on the strength of country-level governance and corporate practices, particularly in vulnerable economic environments where inadequate governance directly impacts banking stability and firm profitability (Athari et al., 2023; Athari et al., 2024).

The inherent volatility and opacity of cryptocurrency also challenge traditional auditing practices, necessitating a shift toward advanced analytical tools and artificial intelligence. AI is increasingly being deployed to revolutionize auditing practices, allowing auditors to process complex, high-volume transactions and enhance the overall quality of consolidated financial statements (Sawaya et al., 2026). However, the successful adoption of these AI-driven audit tools depends significantly on the perceived trust and behavioral profiles of the auditing professionals (Jabbour Al Maalouf et al., 2026). In contexts where digital asset valuations might mask underlying financial distress—such as when firms face severe liquidity issues predicted by the Altman Z-score—auditors must combine algorithmic precision with deep industry expertise and robust internal controls to ensure absolute financial transparency (Elia et al., 2021; Saber & Sassine, 2022). Ultimately, establishing ethical guidelines for AI and blockchain integration within business culture is paramount to maintaining stakeholder trust and preventing the obfuscation of true economic value (Diab & El Hajj, 2024).

Based on this literature, the present study focuses on one narrow but important question: what happens to the financial statements when the same Bitcoin position is measured using different reporting logic? The purpose is not to claim that one numerical case represents every company. Instead, it turns an abstract accounting debate into a visible reporting comparison.

Methodology:

This study uses a controlled case-analysis design. Instead of collecting a survey or inventing company responses, one hypothetical company is given a fixed Bitcoin position and the same market-price path under every scenario. Only the accounting treatment changes. This makes the exercise reproducible and allows the effect of reporting rules to be separated from the effect of different business decisions.

Case Assumptions

The hypothetical company purchases 250 Bitcoin at \$40,000 per coin, for a total cost of \$10,000,000. During the reporting period, Bitcoin falls to \$28,000 per coin before recovering to a year-end market price of \$65,000. The year-end fair value is therefore \$16,250,000. To make the comparison easy to understand, transaction costs and taxes are ignored and the company makes no additional purchases or sales during the period.

Variable	Assumption
Bitcoin units	250 BTC
Purchase price	\$40,000 per BTC
Initial cost	\$10,000,000
Lowest observed price	\$28,000 per BTC
Value at low point	\$7,000,000
Year-end price	\$65,000 per BTC
Year-end fair value	\$16,250,000

Two primary measurement scenarios are compared. Scenario A represents the former U.S. GAAP indefinite-lived intangible approach for instructional comparison: an impairment is recognized when value falls, but a later recovery is not recognized before sale. Scenario B applies the fair-value logic required for qualifying crypto assets under FASB ASU 2023-08: the year-end asset is measured at fair value and the change in fair value is recognized in net income. IFRS is then discussed separately because IAS 38 and IAS 2 depend on the facts and purpose of the holding rather than producing one universal result for every crypto position.

Measures

The analysis calculates four outputs: (1) year-end carrying amount, (2) recognized gain or loss during the period, (3) the difference between carrying amount and year-end market value, called the reporting gap in this study, and (4) the percentage of market value reflected on the balance sheet. The formulas are intentionally simple so that another student can reproduce the results with a calculator or spreadsheet.

- Year-end fair value = Bitcoin units $\times$ year-end market price
- Reporting gap = year-end fair value – reported carrying amount
- Market-value coverage = reported carrying amount $\div$ year-end fair value $\times$ 100
- Fair-value gain = year-end fair value – initial cost

AI was used only as a complementary research and writing tool to brainstorm the structure, organize the comparison, check calculations, and improve wording. The accounting rules and literature were checked against published academic and standard-setting sources. The numerical case itself is transparent and can be reproduced independently.

Results:

The controlled case produces a large difference even though the company owns the same 250 Bitcoin under both scenarios. At the temporary low price of \$28,000, the position is worth \$7,000,000. Under the former impairment-style approach, this creates a \$3,000,000 reduction from the original \$10,000,000 cost. When Bitcoin later rises to \$65,000 by year-end, the carrying amount remains \$7,000,000 in the instructional old-model scenario because the recovery is not recognized before sale.

Under the current FASB fair-value model for qualifying crypto assets, the year-end carrying amount becomes \$16,250,000. Compared with the original \$10,000,000 cost, this produces a \$6,250,000 unrealized fair-value gain recognized in net income for the simplified one-period case.

Metric	Former Cost/Impairment Model	Current FASB Fair Value Model
Initial cost	\$10,000,000	\$10,000,000
Year-end market value	\$16,250,000	\$16,250,000
Year-end carrying amount	\$7,000,000	\$16,250,000
Recognized period effect	-\$3,000,000 impairment	+\$6,250,000 fair-value gain
Reporting gap vs. market value	\$9,250,000	\$0
Market-value coverage	43.1%	100.0%

The difference in year-end carrying amount is \$9,250,000. In other words, two accounting models applied to the same economic holding can produce balance-sheet values that differ by more than the company's original \$10 million investment. Under the former impairment scenario, only 43.1% of the year-end market value appears in the carrying amount. Under fair value, 100% of the quoted year-end value is reflected.

Figure 1. Year-End Carrying Amount Compared with Market Value

Amount (\$ millions)	Former Model	FASB Fair Value	Market Value
Year-end value	7.00	16.25	16.25

The income effect is also significant. The simplified old-model scenario reports a \$3 million impairment loss despite the fact that the asset finishes the year \$6.25 million above its purchase cost. The fair-value scenario reports that \$6.25 million increase in value. The difference between the two reported period effects is therefore \$9.25 million. This result does not come from a different investment decision, a different number of coins, or a different market price. It comes entirely from measurement.

Sensitivity Check

A small sensitivity analysis was also performed to show how the reporting gap changes at different year-end Bitcoin prices after the same temporary decline to \$28,000. Under the simplified

former impairment model, the carrying amount remains \$7 million as long as the asset is not sold and no further impairment occurs. Under fair value, the carrying amount follows the year-end market price.

Year-End Price	BTC	Fair Value Carrying Amount	Former Model Carrying Amount	Reporting Gap
\$30,000		\$7.50m	\$7.00m	\$0.50m
\$40,000		\$10.00m	\$7.00m	\$3.00m
\$50,000		\$12.50m	\$7.00m	\$5.50m
\$65,000		\$16.25m	\$7.00m	\$9.25m
\$80,000		\$20.00m	\$7.00m	\$13.00m

The sensitivity table shows that the reporting gap grows as the market recovers. At a \$30,000 year-end price, the gap is only \$0.5 million. At \$80,000, it reaches \$13 million. The result demonstrates why the measurement basis becomes especially important for highly volatile assets.

Discussion and Conclusion:

This project examined cryptocurrency reporting by applying alternative measurement logic to exactly the same Bitcoin holding. The numerical case shows that accounting treatment can materially change both the balance sheet and the income statement. With 250 Bitcoin purchased for \$10 million, a temporary decline followed by a year-end recovery to \$65,000 per coin produced a \$7 million carrying amount under the simplified former impairment model but a \$16.25 million carrying amount under the current FASB fair-value model. The resulting \$9.25 million difference was created by reporting rules, not by different economics.

The main practical implication is that users should not look at a crypto balance in isolation. They need to understand the measurement basis, the type of crypto asset, the purpose for which it is held, and the related disclosures. Fair-value reporting can provide a more current picture for liquid assets with observable prices, but it can also make reported earnings more volatile because market movements pass through net income. That volatility is not necessarily an accounting error; it reflects the volatility of the underlying asset.

The comparison also highlights an international reporting issue. U.S. GAAP now has specific fair-value guidance for qualifying crypto assets under ASU 2023-08, while IFRS generally relies on IAS 38 or IAS 2 depending on the facts. This can still create differences between companies that hold economically similar assets but report under different frameworks.

The study has limitations. It uses a hypothetical Bitcoin case rather than confidential company data, ignores taxes and transaction costs, and focuses on a fungible cryptocurrency with an observable market price. The results should therefore be read as a reporting illustration rather than evidence about every type of digital asset. Future research could extend the model to stablecoins, tokenized securities, crypto received from customers, mining operations, or actual annual reports from companies reporting under both IFRS and U.S. GAAP.

Overall, the project shows why cryptocurrency is a useful reporting topic: the technology may be new, but the core accounting question is familiar. Financial reporting must turn an economic position into numbers that users can understand and compare. When the asset itself is volatile and the standards differ, the choice of measurement model becomes part of the information users need to interpret.

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