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BEYOND TANGIBLE ASSETS: RETHINKING THE VALUATION OF DIGITAL ASSETS UNDER THE INSOLVENCY AND BANKRUPTCY CODE, 2016

~ Piha Birla

ABSTRACT

The balance sheets of Indian companies have undergone a shift from traditional assets to the inclusion of digital assets. Indian companies now hold more digital assets such as cryptocurrency, NFTs, and data as assets. Yet the Insolvency and Bankruptcy Code, 2016 provides little guidance on how a resolution professional or liquidator should conduct the identification, valuation and distribution of these assets. The paper examines this very gap. Section 3(27) of the Code already defines property broadly enough to cover most digital assets. The real difficulty lies in the administrative framework created by Sections 18, 35, 36, and 53. The provisions run on an assumption that every asset, forming a part of the insolvency estate, can be identified, brought under the liquidator's control, and be valued at a stable and ascertainable price. Digital assets do not fit under that model. A corporate debtor may appear to own a digital asset worth a crore, but if the private key is lost, then that asset is rendered worthless. This gap between market value and realisable value is something that conventional valuation standards were never built to register. Based on recent Indian cases on the Section 53 "Waterfall Mechanism", along with English and American insolvency litigation involving cryptoassets, this paper examines three basic assumptions of insolvency law: that property can be identified, controlled, and that it is realisable. Then it suggests some amendments to the Code and to IBBI regulations to address these issues for digital assets. It concludes by examining the challenges of treating data as an insolvency asset under the Digital Personal Data Protection Act, 2023.

DIGITAL ASSETS FIT THE DEFINITION, NOT THE PROCESS

At first glance, the Code seems to be capable to deal with digital assets. ***Section 3(27)*** defines "property" broadly to include "money, goods, actionable claims, and every description of interest including present or future or vested or contingent interest arising out of, or incidental to, property."[1] This wide definition allows the law to cover new forms of property that did not exist when it was enacted. As a result, cryptocurrency, tokenised securities, and datasets can all fall within its scope.

English courts have taken a similar approach towards cryptoassets under their broad concept of property. In the case of *AA v. Persons Unknown*, the Commercial Court ruled that Bitcoin is a personal property and is capable of being subject to a proprietary injunction. Although it has no physical form, the court found that a cryptoasset is clearly definable, identifiable by third parties, has a degree of permanence, and is capable of assumption.[2] The Indian law, as well, does not suggest that of Section 3(27) should have a narrow interpretation.

Many Indian commentaries argue that the Code suffers from a classification gap and needs a separate category for digital assets. This overstates the issue. The real problem was never really the classification of such assets. It arises at the stage when a resolution professional or liquidator has to deal with the asset by identifying it, taking control over it, valuing it, and distributing its proceeds under Section 53. These are practical and procedural challenges and not merely definitional ones. The insolvency framework under the code was designed for a very different kind of asset. This distinction matters because it shifts the focus of reform. Simply inserting "virtual digital assets" into Section 3(27) would do very little in practice. It would only confirm what the courts are already likely to recognise. The real issue lies in the operative machinery of the code under Sections 18, 35, 36, and 53, which works in a very conventional way and assumes facts about an asset. Digital assets do not always fit into those assumptions.

The 2025 Amendment Bill reflects on this gap. While it amends the Section 53 waterfall mechanism to address the priority of government dues after the Supreme Court's rulings in *Rainbow Papers* and *Raman Ispat*, but it does not touch upon the actual machinery that would

[1] Insolvency and Bankruptcy Code, 2016, No. 31, Acts of Parliament, 2016 (India), § 3(27).
[2] AA v. Persons Unknown, [2019] EWHC 3556 (Comm).

let a liquidator actually administer a digital asset once it forms a part of the estate.[3] The amendment fixed a hierarchy dispute while leaving the underlying administrative gap untouched.

THE STATUTORY ARCHITECTURE AND ITS HIDDEN ASSUMPTIONS

Four provisions under the Code do most of the work of turning a corporate debtor's assets into a distributable estate. ***Section 18*** requires the interim resolution professional to take control and custody of the corporate debtor's assets, collect financial data, collate creditor claims, and constitute the Committee of Creditors (CoC) to manage operations.[4] ***Section 35*** gives the liquidator the power to take into his custody or control all the assets of the corporate debtor.[5] ***Section 36*** constitutes the liquidation estate and lists what falls inside and outside it.[6] ***Section 53*** then distributes the proceeds of the sale of liquidation assets in a fixed hierarchical order, also known as the "Waterfall Mechanism".[7]

Read together, these provisions assume an asset can be identified with certainty, physically or legally reduced into the resolution professional's or liquidator's control, and valued through a stable process via liquidation value or fair value under the Companies (Registered Valuers and Valuation) Rules, 2017, and the corresponding IBBI regulations.[8] Every major provision governing the insolvency process assumes that an asset can be identified, possessed, valued, and realised. Digital assets disrupt each of these assumptions simultaneously, and they do so in ways that compound the situation.

Identification is the first challenge. A factory, a trademark, or a bank account leaves behind records such as title deeds, registries, or account statements. In contrast, a cryptocurrency may exist only as an entry on a distributed ledger and can be accessed only through a private key known to the corporate debtor's directors or even a former employee. Control exaggerates the problem even further. Section 35 assumes that a liquidator can take possession of an asset by seizing it, but a private key cannot be seized like physical property. The problem worsens when the assets are held with an offshore custodial exchange, where cross-border jurisdiction adds

[3]The Insolvency and Bankruptcy Code (Amendment) Bill, 2025 (India) (inserting an illustration to section 53(2) clarifying inter-creditor agreements within the waterfall).
[4]Insolvency and Bankruptcy Code, 2016, No. 31, Acts of Parliament, 2016 (India), § 18.
[5]Id. § 35.
[6]Id. § 36.
[7]Id. § 53.
[8]Companies (Registered Valuers and Valuation) Rules, 2017, G.S.R. 1316(E) (India); IBBI (Insolvency Resolution Process for Corporate Persons) Regulations, 2016, Regulation 35 (India).

an additional difficulty that the Code was not designed to address. And valuation becomes unstable precisely because these earlier failures compound into it, since an asset that cannot be identified or controlled with certainty cannot be valued with any confidence either.

The Rainbow Papers litigation is instructive here, not because it concerns digital assets at all, but because it shows the Supreme Court struggling with Section 53's priority order even for a familiar category of claim, i.e. government tax dues. In ***State Tax Officer (I) v. Rainbow Papers Ltd.***, the Court held that a statutory first charge under the Gujarat Value Added Tax Act placed the state on par with a secured creditor for the purposes of Section 53, effectively elevating tax dues out of their designated position under Section 53(1)(e).[9] Two years later, in ***Paschimanchal Vidyut Vitran Nigam Ltd. v. Raman Ispat Pvt. Ltd.***, a different bench confined *Rainbow Papers* to its facts, holding that the waterfall mechanism under Section 53 had not been properly considered in the earlier decision and that government dues should ordinarily retain their lower statutory priority.[10] If Section 53's priority order can generate this much interpretive instability over an asset class the Code was expressly designed to handle, there is little reason for confidence that it will cope cleanly with an asset class it was not designed to handle at all.

VALUATION AS THE REAL FAULT LINE

A. Why Conventional Valuation Fails

Every insolvency valuation exercise rests on an assumption that an asset's market price and its realisable value move together, give or take a discount for time and effort. Digital assets sever that link, because ownership and control are not the same thing. For example, a company can legally own a Bitcoin holding worth ₹100 crore at the market rate on the valuation date, and recover nothing from it if the private key is lost, destroyed, or held by someone who refuses to cooperate.

This is not a hypothetical situation drawn up to make a point. It is close to the actual facts of ***Tulip Trading Ltd v. Bitcoin Association for BSV***, where the claimant company asserted ownership of Bitcoin valued at roughly USD 4 billion in April 2021, all of it rendered inaccessible after the private keys were lost due to hacking of the claimant's home office

[9]State Tax Officer (I) v. Rainbow Papers Ltd., 2022 SCC OnLine SC 1162 (India).
[10]Paschimanchal Vidyut Vitran Nigam Ltd. v. Raman Ispat Pvt. Ltd., 2023 SCC OnLine SC 842 (India).

systems.[11] The Court of Appeal ultimately allowed Tulip's claim that the network developers might owe it a fiduciary duty to proceed to trial. But the commercial reality is what matters for insolvency purposes. An asset can sit on a balance sheet at full market value while being worthless to a liquidator who cannot realise it for the benefit of the creditors.[12] No existing IBBI valuation standard, built around discounted cash flow, comparable transactions, or net asset value for conventional property, has any mechanism for capturing that gap between paper value and realisable value.

B. Volatility and Timing

Even where a digital asset is genuinely accessible and controllable, its price can swing by half in the weeks between the commencement of liquidation and the eventual distribution to creditors. Under Section 53, the distribution of proceeds is from a stable pool of realised value. It was not designed to deal with an asset whose value could double or halve while the liquidation is still in process. This raises a question that the Insolvency law in India has not had to confront before: at what point in the process should a digital asset actually be valued?

The case of ***In re FTX Trading Ltd.*** provides a useful insight because it was one of the first major bankruptcy proceedings before the US Bankruptcy Court, where the court had to confront the issue of practical treatment of digital assets. Presiding Judge John Dorsey observed that no bankruptcy court had previously estimated the value of cryptocurrency-based claims or conducted a valuation of crypto-type assets in insolvency proceedings. The court ultimately adopted a petition-date valuation methodology that fixed customer claims to Bitcoin's price on the date FTX filed for bankruptcy in November 2022, regardless of the currency's subsequent recovery.[13] More than eighty individual FTX customers later objected that this approach stripped them of the appreciation in Bitcoin's price over the following year, even as they received their allowed claims at above the face value.[14] The controversy shows that timing is not a minor detail. It decides who captures the benefit or absorbs the loss of a volatile asset held in an insolvent estate. Currently, the IBC has no answer to it at all. Section 53 fixes an order of priority, but it says nothing about the date on which a fluctuating asset's value should be locked in for the purpose of that order.

[11]Tulip Trading Ltd v. Bitcoin Association for BSV, [2023] EWCA Civ 83; see also Tulip Trading Ltd v. Bitcoin Association for BSV, [2022] EWHC 667 (Ch).
[12]Id.
[13]In re FTX Trading Ltd., No. 22-11068 (JTD) (Bankr. D. Del.)
[14]Former FTX Customers Object to Petition-Date Valuation Methodology, Bloomberg News (Jan. 11, 2024).

C. The Absence of a Regulatory Valuation Methodology

The IBBI's existing valuation framework is largely built upon the Companies (Registered Valuers and Valuation) Rules, 2017. It was primarily designed for assets with some comparables, cash-flow histories, or physical characteristics that a valuer can inspect.[15] None of the three conventional valuation methods fit digital assets comfortably because their prices are set on unregulated exchanges, their liquidity can disappear overnight, and comparable transactions may be limited or easy to manipulate. The court, in FTX litigation, noted these concerns when it applied a marketability discount to tokens where the debtor controlled almost the entire supply and only a small portion was made available for public trading.[16] The IBBI framework requires a liquidator to obtain two valuations, yet it provides no registered valuer category with the expertise or methodology to value digital assets.

D. Control: Private Keys and Custodial Exchanges

The problem of control lies underneath both of the difficulties above. Section 35 of the Code gives the liquidator a statutory power to take custody of the debtor's assets. But simultaneously it assumes that such custody should be physically or legally available to be taken, meaning that the assets can actually be brought under the liquidator's control. When the digital asset is self-custodied, the access and control completely depends upon the possession of the private key. It may exist only in the corporate debtor's own systems, or in the personal devices of a former director, or may no longer be accessible. When it is held through a third-party custodian, control depends on the custodian's cooperation, its financial position, and its location, which may be in a jurisdiction outside the Code's territorial reach. English courts have responded by granting proprietary injunctions and worldwide freezing orders because traditional possession-based remedies were inadequate against this kind of asset. [17] The IBC provides no such mechanism.

CUSTODY, OWNERSHIP AND THE INSOLVENCY ESTATE

An even more fundamental question comes before the valuation problem: whose asset is this in the first place? Section 36 of the Code governs the liquidation estate, which includes all liquidation costs as well as the assets of the corporate debtor. However, it does not distinguish

[15]Companies (Registered Valuers and Valuation) Rules, 2017, G.S.R. 1316(E) (India).
[16]In re FTX Trading Ltd., supra note 13
[17]AA v. Persons Unknown, supra note 2

between digital assets owned by the debtor beneficially and those it holds for someone else. For example, customer assets held by a crypto exchange. The case of ***In re Celsius Network LLC*** shows exactly why this distinction matters, and how easily it can be decided against the customer. The dispute was centered on whether the cryptocurrency deposited by customers into the debtor's interest-bearing "Earn Accounts" formed a part of the bankruptcy estate or continued to belong to the depositors. The US Bankruptcy Court for the Southern District of New York agreed and held that the plain language of Celsius's "Terms of Use" unambiguously transferred title and ownership of the deposited assets to the company, so that roughly USD 4.2 billion in customer crypto became estate property rather than customer property recoverable outside the general pool of creditors.[18] The ruling was not based on any general principle that cryptocurrency belongs to a custodian rather than a depositor. It depended entirely on the terms of the contract. A clause that most customers had almost certainly not read carefully determined whether they stood ahead or behind Celsius's other creditors.

That is exactly the kind of outcome Indian insolvency law should not wait to arrive. Compared to the client money protections that exist in securities regulation, the IBC has no equivalent of a mandatory customer-asset segregation rule for entities holding digital assets on behalf of others. Without a clear rule, the terms of service of an Indian crypto exchange would end up deciding the issue, exactly as they did in the Celsius litigation. These terms, usually drafted unilaterally and rarely negotiated, may determine whether retail customers are treated as owners entitled to the return of their property or as unsecured creditors standing far down the Section 53 waterfall. A statutory carve-out under Section 36, excluding digital assets held in a fiduciary or custodial capacity from the general liquidation estate, would provide much-needed clarity. It would ensure that ownership is determined by law rather than by standard form contractual terms.

WHEN ASSET MAXIMISATION MEETS DATA PROTECTION

Data should be treated separately rather than being grouped in the general category of digital assets, because it raises different legal and economic issues. Cryptocurrency derives its value from market exchange, meaning it is worth what a buyer will pay for it on a market. An NFT is valuable because of its scarcity and provenance. Software is valuable because of licensing rights. However, Data is different. It derives value from its use. A customer database, a trained

[18]In re Celsius Network LLC, No. 22-10964 (MG) (Bankr. S.D.N.Y. Jan. 4, 2023).

model, or an analytics pipeline has value because of how it can be used, and not because it can be sold as a discrete, freely transferable asset like a token.

This difference matters because India's asset-maximisation objective under the IBC now runs concurrent to the limitation and consent architecture of the ***Digital Personal Data Protection Act, 2023***. A resolution professional trying to maximise estate value has every incentive to treat a corporate debtor's customer data as a saleable asset, whether as part of a going-concern sale or as a standalone transfer to a third party. The DPDP Act, however, ties the lawful use of personal data to the purpose for which it was originally collected and to the consent obtained at that time.[19] A data set collected for one company's commercial purposes does not automatically remain lawfully usable once transferred to an unrelated acquirer in an insolvency sale. However, the Code currently offers no guidance on how a resolution professional should reconcile the two obligations of maximising value for creditors and respecting the purpose limitation that the DPDP Act imposes on the data itself.

This clash is not limited to large platform companies only. Fintech lenders, health-tech startups, and e-commerce businesses undergoing CIRP often treat customer data as one of their most valuable assets, sometimes even more valuable than their physical infrastructure. If the law remains unclear, the resolution professionals will have to face two equally difficult choices. Either they may undervalue a legitimate asset to avoid any kind of risk, or they may maximise its value and expose themselves, the estate, and the successful applicant to liability under the DPDP Act. Neither of these outcomes serves the objective of asset maximisation under the IBC.

COMPARATIVE LESSONS FOR INDIA

The position in the United Kingdom and the United States is somewhat similar. Neither of these countries has solved this problem through specific legislation. Much of the legal stance on the issue has developed through judicial decisions. The English courts settled the question of whether cryptoassets can constitute property quite early. In decisions like *AA v. Persons Unknown*, the High Court accepted the UK Jurisdiction Taskforce's view that a cryptoasset is definable, identifiable by third parties, and capable of being controlled.[20] Once this question was settled, English courts moved quickly towards providing remedies like proprietary injunctions, worldwide freezing orders, and disclosure orders against exchanges. No such

[19]Digital Personal Data Protection Act, 2023, No. 22, Acts of Parliament, 2023 (India), §§ 4-8.
[20]AA v. Persons Unknown, supra note 2.

power has been given to the liquidator under the IBC. India does not need to decide on the issue of inclusion of such assets in the definition of property, since Section 3(27) already resolves it. What it can actually borrow is the remedies that followed once the debate was settled.

United States provides a comparatively clearer stance on valuation and custody because its bankruptcy courts have already dealt with both issues in actual proceedings rather than as an abstract concept. The Celsius and FTX proceedings show two different courts converging on the same method, i.e. attaching a fluctuating asset's value to a fixed date, usually the petition date, and letting the contract language or trust principles decide whether an asset belongs to the estate or to a beneficiary. Neither method is perfect; FTX's customers' continuing objections show that petition-date valuation disadvantages creditors during a market recovery.[21] But an imperfect, yet judicially tested methodology is still more administrable than the current Indian position.

What India can realistically borrow is not a complete transplant of either system, but two narrow mechanisms: (1) a fixed valuation date similar to the US petition-date approach, adapted to the IBC's own timelines, and (2) an express statutory rule on custodial ownership that does not leave the outcome to unilateral contract drafting.

BUILDING A DIGITAL ASSET RESOLUTION FRAMEWORK UNDER THE IBC

The reforms proposed in this paper have three different objectives, because they sit at different points in the insolvency process and call for different instruments.

The first objective is legislative clarity. Section 3(27) should be amended to expressly reference virtual digital assets, not because the current definition is legally inadequate, but because express reference removes any residual risk that the Indian courts have not yet had to resolve and forecloses years of preliminary argument over classification before a case can even reach the substantive questions.

The second one is Administration. This is where the bulk of the reform burden should fall. The IBBI should be empowered to prescribe a distinct valuation methodology for volatile digital assets, built around a fixed reference date rather than a point of maximum convenience for the valuer. Section 35 should be read together with new IBBI regulations requiring corporate

[21]Former FTX Customers Object to Petition-Date Valuation Methodology, supra note 14.

debtors and resolution professionals to disclose digital asset holdings, private key custody arrangements, and any third-party custodial relationships at the earliest possible stage of the insolvency process, so that the question of control surfaces before assets become unreachable. The IBBI should also be directed to appoint technical experts alongside registered valuers for cases involving digital assets, as the existing valuer categories under the 2017 Rules do not hold expertise in this domain.

The third and last objective is Distribution. Section 36 should expressly exclude digital assets held by a corporate debtor in a fiduciary or custodial capacity, and remove them from the debtor's liquidation estate. Instead, such assets should be segregated and returned to the beneficial owners rather than leaving it to be decided be the terms of service of the platform. The statute should also require resolution professionals, dealing with personal data, to certify compliance with the limitation requirements of the Digital Personal Data Protection Act, 2023 before any transfer is approved. This would insure reconciliation between the objective of asset maximisation with data protection obligations.

These reforms do not require the Code to completely abandon its existing framework. They simply adapt and extend the existing mechanism to deal with issues related to digital assets that the Sections 18, 35, 36, and 53 do not currently address.

CONCLUSION

The IBC does not fall short because it excludes digital assets from the definition of property. The real problem is that it continues to regulate twenty-first century assets through a mechanism built to suit the twentieth-century property. Digital assets do not fit those assumptions, and as a result the gap between the legal ownership and practical realisation continues to grow. This is not a mere temporary technical issue. It is the core problem that digital assets pose to insolvency law, in India and in other jurisdictions. Until the law shifts its focus from classification to practical questions of control, valuation and distribution, digital assets with remain legally recognised but unrealisable in practice. For a legislation whose primary objective is efficient and effective distribution of value, this is a serious gap that no longer should be ignored.