

## Mapping inputs, processes, and outcomes of insolvency and bankruptcy code (IBC)

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### Abstract

This study critically examines the inputs, processes, and outcomes of the Insolvency and Bankruptcy Code (IBC), 2016, positioning it as one of India's most significant economic and financial reforms aimed at strengthening creditor recovery and sustaining economic stability. Using secondary data from the annual reports of the Insolvency and Bankruptcy Board of India (IBBI), the research evaluates key variables including the number of admitted cases, withdrawals under Section 12A, appeals, reviews, settlements, cases under resolution, and liquidations. The analysis highlights a worrying trend of increasing insolvency cases alongside declining resolution rates, rising liquidations, and substantial haircuts, which collectively reflect a drift from the IBC's core objectives of achieving timely and value-maximizing resolutions. Even in resolved cases, the prevalence of steep haircuts raises concerns over the protection of financial creditors' interests and the overall effectiveness of the framework. These findings underscore the urgent need for policy interventions and targeted reforms to realign the IBC with its intended purpose. Strengthening the resolution process, improving time-bound outcomes, and ensuring higher value recovery are essential to safeguard the interests of banks, businesses, and other stakeholders, while reinforcing

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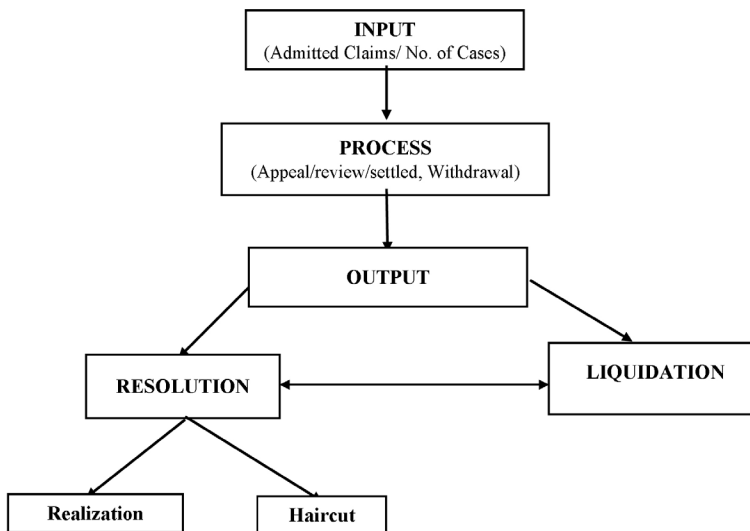
public confidence in the insolvency ecosystem and contributing to sustainable economic growth and sound public policy.

**Subject Classification:** G33, K22, G28, E44.

**Keywords:** Insolvency and bankruptcy code (IBC), Financial creditors, Resolution process, Liquidation, Section 12A, Haircut, Time-bound resolution, Public policy, Indian economy.

## 1. Introduction

The Insolvency and Bankruptcy Code (IBC), enacted in 2016, was a critical reform aimed at improving insolvency resolution and enhancing India's ease of doing business. Earlier mechanisms like Lok Adalats, Debt Recovery Tribunals, and the SARFAESI Act proved inadequate, contributing to rising NPAs, low recovery rates, and significant banking sector losses. The IBC sought to establish a time-bound framework that balances business continuity with creditor protection. Although it initially strengthened recoveries, challenges such as large haircuts, procedural delays, and a predominance of liquidations over resolutions have raised concerns about its efficacy. This study maps the inputs, processes, and outcomes of the IBC to assess its performance and stakeholder implications (figure-1).



**Figure 1**  
Framework for Mapping Inputs, Processes, and Outcomes

*Literature Review:*

Since its enactment, the IBC, 2016 has been widely studied for its impact on debt resolution, ease of doing business, and creditor recovery. The literature broadly highlights two dimensions: the **significance of IBC** in strengthening the insolvency framework, and its **critical limitations** that demand reform.

*Positive Contributions:*

The IBC is recognized as a transformative reform that streamlined insolvency processes and improved India's Ease of Doing Business ranking noted by Ahmed [1]. The impact of ease of doing business measured by Bose, Filomeni and Mallick [2] and, Abhirami and Rahul [3] stated, it has enhanced investor confidence, provided time-bound mechanisms for resolution, and reduced systemic risks. Studies note its role in accelerating corporate resolutions, strengthening creditor rights, and improving recovery prospects. Empirical findings presented by Nemade and Nair [4] suggest higher recovery rates compared to earlier frameworks, alongside positive macroeconomic spillovers such as higher GDP growth and stable NIM, though with mixed effects on ROA and ROE. Change in dynamics due to the COVID-19 crisis discussed by Singh and Thakkar [5] prompted temporary reforms such as suspension of new filings and pre-packaged insolvency that provided relief while maintaining continuity. Overall, the IBC has reinforced financial stability and created a more resilient framework for distressed entities.

*Critical Challenges:*

Despite these achievements, several issues undermine the IBC's effectiveness. One of the critical issue highlighted by Singh and Thakkar [5] about growing number of liquidations relative to successful resolutions raises concerns about long-term outcomes. Another critical challenge identified by Gupta [6] is delays in the Corporate Insolvency Resolution Process (CIRP), impact of this delay mentioned into report of IIPI – ICAI [7] stated resolution process often extending beyond statutory timelines, erode asset value and creditor returns. Judicial bottlenecks, infrastructural gaps, and litigation complexities further exacerbate inefficiencies. Empirical evidences of rising haircuts, especially in high-profile cases discussed by Dalal [8] like DHFL, Videocon, and SIVA Industries, have led to severe value erosion, sometimes exceeding 90%, challenging the Code's

objective of maximizing recoveries. Moreover, the article of Policy Circle [9] raises the concern about widening gap between case admissions and successful closures, with CIRP timelines increasing from 653 days to 843 days by FY2024, underscores systemic delays.

### *Synthesis:*

The literature portrays the IBC as a landmark reform that reshaped India's insolvency ecosystem, but its sustainability depends on addressing persistent challenges. Issues such as prolonged timelines, excessive haircuts, and liquidation dominance highlight the need for structural reforms, stronger judicial capacity, and better creditor protection. These insights provide the foundation for the present study, which maps the inputs, processes, and outcomes of the IBC to assess its evolving effectiveness and identify avenues for improvement.

### **Objectives of Research and Hypotheses**

1. To critically evaluate the performance and effectiveness of the IBC since its implementation.
2. To investigate the interconnections between admitted claims (Input), procedural factors such as appeals/reviews, settlements, and withdrawals (Process), and their influence on resolution and liquidation outcomes (Output).

H0: There is no significant relationship between admitted claim (input), appeal/review/settled and withdrawal (process), resolution and liquidation (output)

3. To analyse the relationship between the number of cases admitted for resolution, the quantum of claims, realization amounts, haircut percentages, and the time taken to complete the resolution process.

H0: There is no significant relationship between the number of cases admitted for resolution, the quantum of claims, realisation amounts, haircut percentage, and the time taken to complete the resolution process.

4. To assess the impact of key inputs (admitted claims and amounts involved) and procedural factors (appeals, reviews, settlements, and withdrawals) on the final outcomes of resolution and liquidation under the IBC framework.

*For resolution:*

H0: There is no significant impact of admitted claims (input) on resolution (output)

H0: There is no significant impact of appeal/review/ settled/ withdrawal and time taken(process) on resolution (output)

*For liquidation:*

H0: There is no significant impact of admitted claims (input) on liquidation (output)

## **Research Methodology**

### *1. Research Design*

This study adopts a quantitative research approach to analyse the performance and trends of the IBC based on secondary data. The research aims to assess the outcomes and implications of cases under IBC, focusing on liquidation and resolution and other critical variables influencing the outcomes.

### *2. Data Collection*

- **Source of Data:**

The data is collected from the annual reports published by the Insolvency and Bankruptcy Board of India (IBBI).

- **Period of Study:**

The analysis covers data from 2017 to 2023

- **Variables Considered:**

- o Admitted Claims
- o Appeal/Review/Settled
- o Withdrawal under Section 12A
- o Approval of Resolution Plans
- o Commencement of Liquidation
- o Haircut (%)
- o Realization (%)

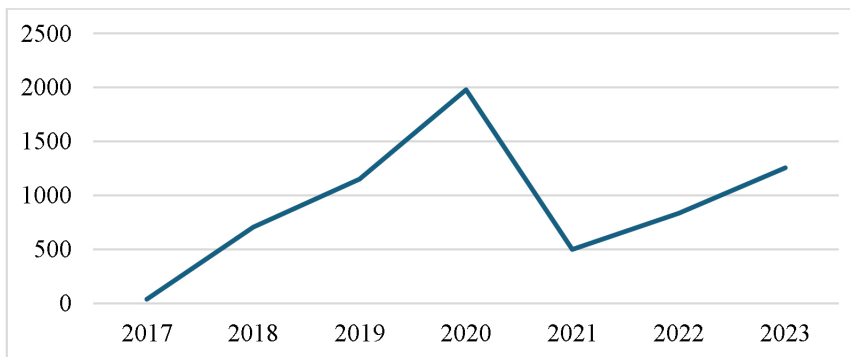
### 3. Data Analysis

The study employs a combination of analytical methods to collect empirical evidence. Graphical analysis is used to examine trends and the performance of IBC cases. Descriptive statistics and correlation analysis are utilized to gather initial evidence and identify relationships. Finally, simple linear and multiple linear regression models are applied to measure the impact of input and process variables on output, providing robust conclusions for the study.

#### *Discussion:*

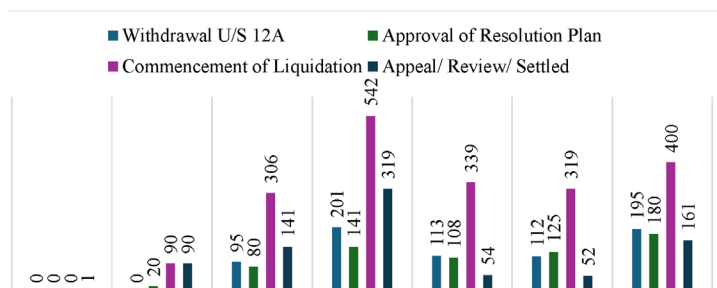
To evaluate the performance and effectiveness of the IBC since its implementation, we need to take a look upon number of cases admitted as an input.

**Chart 1: Admitted Claim Under IBC**



Source: Annual reports of IBBI

As seen in chart-1, the admitted claims under IBC rose sharply between 2017 and 2019, reflecting its early adoption and growing traction, peaking at over 2,000 cases in 2020. A steep decline followed in 2021 due to the suspension of proceedings during the pandemic, but claims gradually recovered thereafter with economic stabilization and the resumption of legal processes. Tracking case status across inputs, processes, and outcomes provides critical insights into the IBC's functioning and forms the basis for deeper analysis in this study.

**Chart 2: Status of Cases**

Source: Annual reports of IBBI

Chart -2 shows that since its inception, the IBC's performance has shown considerable volatility. In the initial phase (2018–2020), case filings rose steadily across appeals, settlements, withdrawals, resolutions, and liquidations, though liquidations consistently outpaced resolutions. The COVID-19 period (2021–22) saw a sharp decline due to the suspension of proceedings and the introduction of pre-packaged insolvency. By 2023, liquidation cases surged again, remaining higher than resolutions, though approved resolution plans also increased, equaling withdrawals. Overall, the persistent dominance of liquidations over resolutions raises concerns about the IBC's effectiveness. To examine these trends more critically, descriptive statistics and correlation analysis were conducted across inputs, processes, and outcomes, with insights discussed below.

**Table 1**  
Descriptive Data Analysis for IBC 2017-23

| Descriptive Statistics |      |         |         |        |          |          |          |            |
|------------------------|------|---------|---------|--------|----------|----------|----------|------------|
|                        | N    | Minimum | Maximum | Mean   | Std. Dev | Variance | Skewness |            |
|                        | Stat | Stat    | Stat    | Stat   | Stat     | Stat     | Stat     | Std. Error |
| Admitted_claim         | 7    | 37      | 1978    | 922.85 | 618.58   | 382651.1 | 0.43     | 0.794      |
| Appeal_settled         | 7    | 1       | 319     | 116.85 | 104.63   | 10949.14 | 1.07     | 0.794      |
| Withdrawal             | 7    | 0       | 201     | 102.28 | 81.16    | 6587.905 | -0.16    | 0.794      |

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|                                |   |   |     |        |        |          |       |       |
|--------------------------------|---|---|-----|--------|--------|----------|-------|-------|
| Approve_<br>for_<br>resolution | 7 | 0 | 180 | 93.42  | 64.89  | 4211.286 | -0.36 | 0.794 |
| Liquidation                    | 7 | 0 | 542 | 285.14 | 183.95 | 33839.48 | -0.44 | 0.794 |
| Valid N<br>(listwise)          | 7 |   |     |        |        |          |       |       |

All metrics—admitted claims, appeals settled, withdrawals, resolutions, and liquidations—show substantial variability, reflected in high standard deviations as seen in table-1. Admitted claims dominate, with the highest mean (922.86), indicating consistent entry into the IBC process. Liquidations significantly exceed approved resolutions (mean 285.14 vs. 93.43), highlighting inefficiencies in achieving viable restructuring. Appeal settlements (mean 116.86) and withdrawals (mean 102.29) are lower than admitted claims, suggesting challenges in out-of-court resolutions, though withdrawals indicate a growing preference for informal settlements. Skewness values between -1 and +1 suggest fairly balanced distributions for most metrics.

Based on the primary evidences collected from the descriptive states to understand the relationship between the different of IBC process the correlation analysis conducted and empirical evidences collected and discussed as below:

**Table 2**  
**Co-relationship between process of IBC**

| Correlations                  |                        |                     |                                |            |                                  |                  |
|-------------------------------|------------------------|---------------------|--------------------------------|------------|----------------------------------|------------------|
|                               |                        | Admit-<br>ted_claim | Appeal_<br>Review_<br>_settled | Withdrawal | Approve_<br>for_ reso-<br>lution | Liquida-<br>tion |
| Admit-<br>ted_<br>claim       | Pearson<br>Correlation | 1                   | .964**                         | .799*      | 0.688                            | .854*            |
|                               | Sig.<br>(2-tailed)     |                     | 0                              | 0.031      | 0.088                            | 0.014            |
|                               | N                      | 7                   | 7                              | 7          | 7                                | 7                |
| Appeal_<br>Review_<br>settled | Pearson<br>Correlation | .964**              | 1                              | 0.729      | 0.563                            | .781*            |
|                               | Sig.<br>(2-tailed)     | 0                   |                                | 0.063      | 0.188                            | 0.038            |
|                               | N                      | 7                   | 7                              | 7          | 7                                | 7                |

*Contd...*

|                                                              |                        |       |       |        |        |        |
|--------------------------------------------------------------|------------------------|-------|-------|--------|--------|--------|
| With-<br>drawal                                              | Pearson<br>Correlation | .799* | 0.729 | 1      | .960** | .959** |
|                                                              | Sig.<br>(2-tailed)     | 0.031 | 0.063 |        | 0.001  | 0.001  |
|                                                              | N                      | 7     | 7     | 7      | 7      | 7      |
| Approve<br>for_ reso-<br>lution                              | Pearson<br>Correlation | 0.688 | 0.563 | .960** | 1      | .903** |
|                                                              | Sig.<br>(2-tailed)     | 0.088 | 0.188 | 0.001  |        | 0.005  |
|                                                              | N                      | 7     | 7     | 7      | 7      | 7      |
| Liquida-<br>tion                                             | Pearson<br>Correlation | .854* | .781* | .959** | .903** | 1      |
|                                                              | Sig.<br>(2-tailed)     | 0.014 | 0.038 | 0.001  | 0.005  |        |
|                                                              | N                      | 7     | 7     | 7      | 7      | 7      |
| **. Correlation is significant at the 0.01 level (2-tailed). |                        |       |       |        |        |        |
| *. Correlation is significant at the 0.05 level (2-tailed).  |                        |       |       |        |        |        |

The correlation analysis presented in table-2 rejects H0, indicating significant relationships among inputs (admitted claims), processes (appeals/settlements/withdrawals), and outputs (resolutions/liquidations). The findings reveal a systemic bias toward liquidation: admitted claims correlate strongly with liquidation (0.854), while the correlation with resolutions (0.688) is moderate and not significant, highlighting a performance gap in channeling cases toward effective resolution.

Withdrawals show significant positive correlations with both resolutions (0.960) and liquidations, suggesting that while withdrawals help streamline tribunal processes and enable favorable outcomes, they are also associated with higher liquidation, signaling inefficiencies in achieving resolution-centric objectives.

The positive correlation between resolutions and liquidations further indicates misalignment with the IBC's goal of prioritizing resolutions over liquidations. Similarly, appeals correlate strongly with admitted claims (0.964) but weakly with resolutions (0.563, not significant), suggesting that many appeals do not translate into successful outcomes. Overall, the analysis underscores the IBC's leaning toward liquidation and highlights areas requiring structural and procedural improvements to enhance resolution efficiency.

To understand the IBC's limited success in achieving resolutions, it is essential to examine the relationships among resolution cases, admitted claims, realization percentage, haircut percentage, and time taken, given the Code's objective of time-bound recoveries. Descriptive statistics and correlation analyses were applied to generate evidence, with the results discussed below.

**Table 3**  
**Descriptive Statistics for resolution 2018-23**

| Descriptive Statistics           |           |           |           |           |           |            |           |            |
|----------------------------------|-----------|-----------|-----------|-----------|-----------|------------|-----------|------------|
|                                  | N         | Minimum   | Maximum   | Mean      | Std. Dev  | Variance   | Skewness  |            |
|                                  | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic  | Statistic | Std. Error |
| No._of_<br>Cases_<br>_resolution | 6         | 20        | 180       | 109       | 54.92     | 3016.8     | -0.606    | 0.845      |
| Admitted_<br>claims_of_<br>FC    | 6         | 8263.89   | 195231    | 139944    | 71574.3   | 5122881438 | -1.25     | 0.845      |
| Per_of_<br>realization           | 6         | 20.15     | 55.13     | 37.42     | 14        | 196.033    | 0.036     | 0.845      |
| Haircut (%)                      | 6         | 44.87     | 79.85     | 62.57     | 14        | 196.033    | -0.036    | 0.845      |
| time_tak-<br>en_ Days            | 6         | 243       | 831       | 498.16    | 226.97    | 51516.967  | 0.632     | 0.845      |
| Valid N<br>(listwise)            | 6         |           |           |           |           |            |           |            |

Since no cases reached resolution in 2017, the analysis considers 2018 onward. Descriptive statistics from table-3 show an average of 109 resolution cases per year (SD = 54.93), indicating moderate annual performance. Admitted claims exhibit high variability (SD = 71,574.31). Creditors recover on average only 37.43% of their claims, with an average haircut of 62.57%, reflecting substantial losses. Delays contribute to these outcomes: while the CIRP is legally intended to conclude within 330 days (180 days plus a 90-day extension), the observed mean duration is 498 days, explaining the high haircuts and low realizations.

To gather proof that this longer time is causing a lower rate of realization and a higher haircut, corrective analysis has been performed for all metrics and is described below.

**Table 4**  
**Correlation of resolved cases with procedural factors**

| Correlations                                                 |                        |                                    |                                    |                             |              |                         |
|--------------------------------------------------------------|------------------------|------------------------------------|------------------------------------|-----------------------------|--------------|-------------------------|
|                                                              |                        | No._of_<br>Cases_<br>of_resolution | Admit-<br>ted_<br>claims_<br>of_FC | Per_of_<br>realiza-<br>tion | Hair-<br>cut | Time_<br>taken_<br>Days |
| No._of_Cases_<br>of_resolution                               | Pearson<br>Correlation | 1                                  | 0.59                               | -0.48                       | 0.48         | .832*                   |
|                                                              | Sig.<br>(2-tailed)     |                                    | 0.218                              | 0.336                       | 0.336        | <b>0.04</b>             |
|                                                              | N                      | 6                                  | 6                                  | 6                           | 6            | 6                       |
| Admitted_<br>claims_of_FC                                    | Pearson<br>Correlation | 0.59                               | 1                                  | -0.291                      | 0.291        | 0.357                   |
|                                                              | Sig.<br>(2-tailed)     | 0.218                              |                                    | 0.576                       | 0.576        | 0.487                   |
|                                                              | N                      | 6                                  | 6                                  | 6                           | 6            | 6                       |
| Per_of_realiza-<br>tion                                      | Pearson<br>Correlation | -0.48                              | -0.291                             | 1                           | -1.000**     | -0.49                   |
|                                                              | Sig.<br>(2-tailed)     | 0.336                              | 0.576                              |                             | 0            | 0.324                   |
|                                                              | N                      | 6                                  | 6                                  | 6                           | 6            | 6                       |
| Haircut                                                      | Pearson<br>Correlation | 0.48                               | 0.291                              | -1.000**                    | 1            | 0.49                    |
|                                                              | Sig.<br>(2-tailed)     | 0.336                              | 0.576                              | 0                           |              | 0.324                   |
|                                                              | N                      | 6                                  | 6                                  | 6                           | 6            | 6                       |
| time_taken_<br>Days                                          | Pearson<br>Correlation | .832*                              | 0.357                              | -0.49                       | 0.49         | 1                       |
|                                                              | Sig.<br>(2-tailed)     | <b>0.04</b>                        | 0.487                              | 0.324                       | 0.324        |                         |
|                                                              | N                      | 6                                  | 6                                  | 6                           | 6            | 6                       |
| *. Correlation is significant at the 0.05 level (2-tailed).  |                        |                                    |                                    |                             |              |                         |
| **. Correlation is significant at the 0.01 level (2-tailed). |                        |                                    |                                    |                             |              |                         |

The correlation analysis in table - 4 covers 2018–2023, as no cases were resolved in 2017. Results indicate a strong positive correlation between the number of resolved cases and time taken, reflecting systemic inefficiencies

due to resource or administrative constraints. A weak negative correlation between resolution time and realization rate suggests that longer durations may reduce recoveries through asset depreciation or process inefficiencies. To further investigate poor realizations, cases exceeding ₹10,000 crore were analyzed separately, providing insights into challenges in resolving high-value claims, as summarized below.

**Table 5**  
**List of higher amount involving resolved cases**

| Sr. No | CIRP Comm Date | NCLT Resolution approve date | Company                  | Resolution time  | Admitted Claim | Amount realization | Hair-cut (%) |
|--------|----------------|------------------------------|--------------------------|------------------|----------------|--------------------|--------------|
| 1      | Jul-17         | May-18                       | Bhusan steel ltd         | <b>10 months</b> | 57,505         | 36,771             | <b>36</b>    |
| 2      | Jul-17         | Sep-19                       | Bhusan power & steel ltd | <b>26 months</b> | 47,902         | 19,895             | <b>58</b>    |
| 3      | Jul-17         | Mar-19                       | Alok industries ltd      | <b>20 months</b> | 30,707         | 5,115              | <b>83</b>    |
| 4      | Jul-17         | Apr-18                       | Electro steels ltd       | <b>9 months</b>  | 13,958         | 5,320              | <b>62</b>    |
| 5      | Jul-17         | Jul-20                       | Amtek Auto               | <b>36 months</b> | 12,848         | 2,619              | <b>80</b>    |
| 6      | Jul-17         | Jul-18                       | Monnet Ispat & Eng ltd   | <b>12 months</b> | 11,478         | 2,917              | <b>75</b>    |
| 7      | Aug-17         | Mar-19                       | Essar steel ltd          | <b>20 months</b> | 54,565         | 42,232             | <b>23</b>    |
| 8      | Aug-17         | Mar-20                       | Jaypee Infratech ltd     | <b>31 months</b> | 23,641         | 23,243             | <b>2</b>     |
| 9      | Dec-17         | Jul-19                       | Ruchi Soya ltd           | <b>19 months</b> | 12,146         | 2,391              | <b>65</b>    |
| 10     | Mar-18         | Jun-20                       | Aircel ltd               | <b>27 months</b> | 36,102         | 6,602              | <b>82</b>    |
| 11     | May-18         | Dec-20                       | Reliance Infratel ltd    | <b>21 months</b> | 42,394         | 4,267              | <b>90</b>    |
| 12     | Jun-18         | Jun-21                       | Videocon industries ltd  | <b>36 months</b> | 64,691         | 2,960              | <b>95</b>    |

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|    |        |        |                                      |                  |          |          |           |
|----|--------|--------|--------------------------------------|------------------|----------|----------|-----------|
| 13 | Jun-19 | Jun-21 | Jet Airways (India) Ltd <sup>1</sup> | <b>24 months</b> | 15,432   | 1,133    | <b>93</b> |
| 14 | Dec-19 | Jun-21 | DHFL                                 | <b>18 months</b> | 87,248   | 37,167   | <b>57</b> |
|    |        |        |                                      |                  | 5,10,617 | 1,92,632 | 62.27     |

Source: IBCLaw.in

Table-5 shows high-value insolvency cases (claims > ₹10,000 crore) reveal critical challenges, including substantial haircuts and prolonged timelines. The average haircut of 62.27%, with some cases exceeding 90%, indicates significant value erosion for creditors. The mean resolution time of 22.9 months far exceeds IBC's prescribed limits, further delaying recoveries. These outcomes reflect inefficiencies in asset valuation, bidder participation, and resolution planning for large cases.

To further assess the impact of inputs and processes on outcomes, simple and multiple linear regression models were applied. The effect of admitted cases on resolution outcomes was examined using a simple linear regression, with results presented and discussed below.

$$\text{Resolution} = \beta_0 + \beta_1 \text{ No of cases}$$

**Table 6**  
**Impact of No of Cases (Input) on Resolution (Output)**

| R     | R Square | Adj R Square | Std Error | F (Sig.) | $\beta_0$ (Sig.) | $\beta_1$ (Sig.) | D-W   |
|-------|----------|--------------|-----------|----------|------------------|------------------|-------|
| 0.479 | 0.229    | 0.037        | 53.91     | 1.19     | 55.41            | 0.05             | 0.399 |
|       |          |              |           | (0.337)  | (0.361)          | (0.33)           |       |

Output highlighted in table-6 shows the weak correlation ( $R = 0.479$ ) and low adjusted  $R^2$  (0.037) indicate that case volume alone has little influence on resolution outcomes. This suggests that process-related factors are more critical in determining success. To assess this, a multiple linear regression model was developed and converted to a log-linear form to address autocorrelation issues.

$\text{Resolution} = \beta_0 + \beta_1 \text{ Appeal/Review/Settled} + \beta_2 \text{ Withdrawal} + \beta_3 \text{ Time taken in Days}$

<sup>1</sup> Case of jet airways moved into liquidation from resolution.

$\text{Log\_Resolution} = \beta_0 + \beta_1 \text{Log\_Appeal/Review/Settled} + \beta_2 \text{Log\_Withdrawal} + \beta_3 \text{Log\_Time taken in Days}$

**Table 7**  
Impact of Appeal/Review/Settled, withdrawal, times taken on days (Process)  
on Resolution (Output)

| R     | R Square | Adj R Square | Std Error | F (Sig.) | $\beta_0$ (Sig.) | $\beta_1$ (Sig.) | $\beta_2$ (Sig.) | $\beta_3$ (Sig.) | D-W |
|-------|----------|--------------|-----------|----------|------------------|------------------|------------------|------------------|-----|
| 0.997 | 0.994    | 0.985        | 0.954     | 112.83   | 0.945            | 0.069            | 0.033            | 0.142            | 2.4 |
|       |          |              |           | (0.009)  | (0.623)          | (0.29)           | (0.014)          | (0.059)          |     |
| VIF   |          |              |           |          |                  | 2.272            | 2.498            | 2.371            |     |

Output of the regression analysis from table-7 rejects H0, indicating that appeals, reviews, settlements, withdrawals, and time taken (process variables) collectively influence resolution outcomes. Among these, time taken emerges as the most impactful factor, suggesting that longer durations improve resolution rates highlighting inefficiencies that contradict the IBC's objective of timely resolutions (significance value at boarder line of 0.05). Appeals, reviews, and settlements show limited significance, indicating procedural inefficiencies, while withdrawals have a minor impact.

The model is highly predictive ( $R^2$  high), with low standard error (0.954), significant F-statistic (112.83,  $p = 0.009$ ), no serious autocorrelation (Durbin-Watson = 2.4), and VIF below 5, confirming reliability and validity.

Since previous results showed no direct impact of case volume on resolution, the effect of admitted cases on liquidation outcomes was analyzed using a simple linear regression, with results discussed below.

$$\text{Liquidation} = \beta_0 + \beta_1 \text{No of cases}$$

**Table 8**  
Impact of No of Cases (Input) on Liquidation (Output)

| R     | R Square | Adj R Square | Std Error | F (Sig.) | $\beta_0$ (Sig.) | $\beta_1$ (Sig.) | D-W   |
|-------|----------|--------------|-----------|----------|------------------|------------------|-------|
| 0.854 | 0.73     | 0.676        | 104.76    | 13.49    | 50.71            | 0.254            | 1.706 |
|       |          |              |           | (0.014)  | (0.529)          | (0.01)           |       |

Output of the regression analysis from table-8 rejects  $H_0$ , showing a significant impact of admitted claims (input) on liquidation (output). The model is robust and highly predictive ( $\text{Adj. } R^2 = 0.67$ ), indicating that case filings largely explain variations in liquidation outcomes. The D-W value of 1.70 confirms no significant autocorrelation, and simple linear regression eliminates multicollinearity concerns.

Results suggest that each additional case increases liquidation by 0.254 units—i.e., four new filings lead to one additional liquidation—highlighting inefficiencies and delays in the process. The relationship is highly significant ( $p = 0.01$ ), underscoring that case volume drives liquidation rather than resolutions, contrary to the IBC's objective.

### **Findings & Conclusion:**

The analysis shows that the IBC initially succeeded in maximizing recoveries during its early implementation, demonstrating its potential to address insolvency effectively. However, over time, its efficiency has declined. Key objectives—time-bound resolutions, minimal haircuts, and stakeholder-focused outcomes—have not been consistently met. Instead, trends indicate rising liquidations, prolonged resolution timelines, high haircuts, and lower realizations.

These shortcomings reflect systemic inefficiencies. Creditors are losing control, evidenced by the dominance of liquidations and steep haircuts, which undermines the creditor-in-control model. While recovery rates for banks improved, process inefficiencies reduce the framework's overall effectiveness.

Addressing these issues requires structural and policy reforms: streamlining procedures to reduce delays, incentivizing resolutions over liquidations, minimizing haircuts, and improving operational efficiency. With targeted, timely reforms, the IBC can align practice with objectives and evolve into a more robust and effective framework, delivering greater value to creditors, the economy, and stakeholders.

### **Recommendations:**

To address the key challenges of high haircuts, prolonged timelines, and rising liquidations, the IBC requires targeted amendments. Given the unique complexities of each case, a uniform approach is ineffective. We recommend three key reforms to improve resolution rates, reduce haircuts, and limit cases proceeding to liquidation.

### 1. Resolution Grid and Its Necessity

The proposed grid ensures that resolution follows a systematic approach, aligning recovery efforts with the size of financial distress.

**Table 9**  
**Proposed Resolution Grid**

| Amount Admitted in IBC (INR Cr) | Haircut % | Time Taken (Days) |
|---------------------------------|-----------|-------------------|
| 0 - 10,000                      | 30 - 40%  | 180 + 90          |
| 10,000 - 25,000                 | 40 - 45%  | 270 + 90          |
| 25,000 - 50,000                 | 45 - 50%  | 540 + 90          |
| 50,000+                         | 50 - 60%  | 630 + 120         |

The grid suggested in table-9 is necessary as it provides a structured and predictable resolution process, preventing undue delays and excessive haircuts. However, a rigid framework can sometimes lead to inefficiencies, necessitating a more dynamic approach. Where Banking Regulatory Act, 1949 may provide a forward direction to manage this stressed asset class.

### 2. RBI's Intervention in High-Haircut Cases by using the power under Banking Regulatory Act, 35A and 35AA

The scope of Sections 35A and 35AA of the Banking Regulation Act primarily focusing on safeguarding the interests of banking institutions and the public at large. These provisions play a critical role in enabling regulatory intervention, particularly in addressing stressed assets and ensuring financial stability within the banking system.

**Table 10**  
**Power of RBI under Banking Regulatory Act, section 35A & 35AA**

| Feature   | Section 35A                                 | Section 35AA                                |
|-----------|---------------------------------------------|---------------------------------------------|
| Nature    | RBI's general power to issue directions     | Special power to initiate IBC proceedings   |
| Initiator | RBI (direct power)                          | Central Government must authorize RBI       |
| Objective | Regulation of bank affairs                  | Resolution of specific defaults through IBC |
| Use Case  | Moratoriums, NPA classification, management | Directing resolution of large loan defaults |

Despite regulatory powers highlighted into table-10 under Sections 35A and 35AA of the Banking Regulation Act, the RBI has largely refrained from intervening in IBC cases with high haircuts or dominant liquidations, risking substantial value erosion for banks. To improve market outcomes, the RBI should intervene when haircuts exceed defined limits. Specifically:

- If a company's Future Economic Value (FEV) exceeds the Current Financial Loss (CFL), RBI should conduct an independent valuation.
- This ensures viable businesses are restructured rather than liquidated, maximizes creditor recovery, and promotes case-specific resolutions.

### 3. *Incentivizing IBC Committee Members:*

Interim Resolution Professionals (IRPs) and committee members currently lack incentives. Proposed measures include:

- Performance-based remuneration tied to successful resolution.
- Equity-based incentives aligning members' interests with the company's long-term growth.

### 4. *Excluding Fraud Cases from Standard IBC Process:*

Many liquidations involve fraudulent companies, which strain NCLT resources and reduce efficiency. Such cases should be handled through a separate legislative mechanism focused on asset recovery, allowing genuine insolvencies to follow the standard IBC resolution process.

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