

The Insolvency and Bankruptcy Code (IBC) and its Impact on the Indian Economy: A Quantitative and Qualitative Analysis

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ABSTRACT

Empirical evidence suggests that while the IBC has expedited the resolution of stressed assets, challenges remain. As of September 2023, the average resolution time has extended to 653 days, far exceeding the stipulated 330-day timeline. Recovery rates under the IBC have declined from 43% in 2019 to 32% in 2023, with cases resolved within 330 days yielding significantly higher recoveries than those extending beyond 600 days. Despite these challenges, the IBC has contributed to a positive shift in India's credit culture, encouraging early settlements and reducing non-performing assets through pre-IBC resolutions. Additionally, investor confidence has strengthened, as evidenced by a 42% rise in approved resolution plans in fiscal year 2024. A special focus on the manufacturing sector reveals that the IBC has facilitated restructuring and revival, with a 22% increase in resolutions within the sector. However, persistent delays and declining recoveries underscore the need for further reforms to enhance the efficiency of the resolution process. This study provides a comprehensive assessment of the IBC's impact on the Indian economy, offering policy recommendations to improve its implementation. Strengthening institutional capacity, reducing procedural delays, and refining the legal framework are crucial to ensuring that the IBC remains an effective tool for insolvency resolution and financial stability.

Keywords: IBC, Quantitative Analysis, Qualitative Analysis, Non-Performing Assets, Financial Stability.

Introduction

Before the enactment of the Insolvency and Bankruptcy Code (IBC) in 2016, India's insolvency framework was fragmented, inefficient, and characterized by protracted resolution timelines, low recovery rates, and a weak credit culture. The absence of a unified insolvency mechanism led to delays in resolving distressed assets, resulting in capital being locked in non-performing firms and eroding investor confidence. Multiple laws governed insolvency proceedings, including the Sick Industrial Companies Act (SICA), the Recovery of Debts Due to Banks and Financial Institutions Act (RDDBFI), and the Companies Act, among others. These overlapping and often contradictory provisions created legal uncertainties, discouraging investment and increasing financial risks for creditors.

Recognizing these inefficiencies, the IBC was introduced as a comprehensive reform to streamline insolvency resolution, consolidate existing laws, and establish a structured, time-bound process for addressing corporate distress. The code was designed to shift the balance of power from debtors to creditors, ensuring that distressed firms were either revived efficiently or liquidated in a timely manner. A key feature of the IBC was the imposition of a 180-day deadline (extendable by 90 days) for corporate insolvency resolution, with an upper limit of 330 days, thereby aiming to prevent indefinite delays that previously plagued the system.

Since its implementation, the IBC has significantly reshaped India's financial landscape, leading to faster resolutions, improved recovery rates in certain cases, and a more disciplined credit culture. However, challenges persist, including delays in resolution beyond the prescribed timeframe, declining recovery rates, and concerns regarding the efficiency of the National Company Law Tribunal (NCLT) in handling a growing caseload.

This paper employs a data-driven approach to analyze the impact of the IBC on the Indian economy, with a particular focus on the manufacturing sector. By examining key metrics such as resolution timelines, recovery rates, and the effectiveness of creditor-led resolutions, this study seeks to assess whether the IBC has fulfilled its objectives. Furthermore, the paper evaluates qualitative aspects such as changes in credit discipline, investor confidence, and the evolving role of financial institutions in the insolvency resolution process. The findings aim to provide insights into the successes and limitations of the IBC and suggest policy recommendations for enhancing its effectiveness in the future

Literature Review

The literature on insolvency laws, bankruptcy frameworks, and the impact of the Insolvency and Bankruptcy Code (IBC), 2016 provides valuable insights into the evolution and effectiveness of insolvency resolution in India. This review examines global insolvency frameworks, pre-IBC challenges in India, post-IBC improvements, sectoral impacts (particularly on manufacturing), and statistical models used in insolvency research.

Global Perspectives on Insolvency Resolution

- **Theoretical Foundations of Bankruptcy Laws**
 - La Porta et al. (1998) examined cross-country insolvency frameworks and concluded that strong creditor protection laws contribute to efficient credit markets and economic stability.
 - Djankov et al. (2008) highlighted the importance of legal enforcement and institutional efficiency in determining insolvency outcomes, showing that creditor-friendly laws improve recovery rates and financial health.
- **Efficiency of Insolvency Frameworks in Different Countries**
 - World Bank's Doing Business Report (2020) found that countries with structured insolvency laws (e.g., the U.K., Singapore, U.S.) report recovery rates exceeding 80%, whereas those with inefficient judicial processes (e.g., Brazil, India pre-IBC) report much lower recoveries (~25%).
 - Claessens & Klapper (2005) analyzed insolvency frameworks and found that effective judicial systems, transparent processes, and creditor rights directly impact resolution timelines and financial recoveries.

India's Insolvency and Bankruptcy Code (IBC), 2016

- **Pre-IBC Challenges in India**
 - Rajan & Zingales (2014) pointed out that India's earlier insolvency laws (SICA, RDDBFI, SARFAESI) failed to provide time-bound resolutions, leading to average resolution times of 4-5 years.
 - Banerjee et al. (2017) found that pre-IBC recovery rates were as low as 25%, largely due to weak enforcement mechanisms and delays in courts.
- **Impact of IBC on Insolvency Resolution**
 - Ghosh (2019) analyzed IBC's role in improving resolution efficiency, showing that the average resolution time has reduced to 1.6 years.
 - Economic Survey of India (2020) reported that recovery rates have increased to 33.3% post-IBC, indicating an improvement in creditor recoveries.
 - IBBI Annual Report (2023) noted that high-value cases (above ₹10,000 crore) still experience delays due to complex litigation and sector-specific challenges.
- **Sectoral Impact: Focus on Manufacturing**
 - Patnaik et al. (2021) analyzed IBC's impact on manufacturing firms, finding that resolution timelines are higher (2.1 years) due to asset valuation complexities.
 - Reserve Bank of India (2022) highlighted that manufacturing firms recover more (37.2%) than service sector firms (30%), primarily due to stronger asset values.

Research Gap

While existing studies provide insights into IBC's impact on insolvency resolution, recovery rates, and judicial delays, the following research gaps remain:

- **Lack of Sector-Specific Insights**

Existing studies often analyze the IBC's impact in a general context, with limited focus on how the code affects specific sectors such as manufacturing. There is a need for deeper examination of sectoral differences in resolution timelines, recovery rates, and asset complexities.

- **Absence of Predictive and Statistical Models**

Most research relies on descriptive analysis and lacks empirical modeling to quantify relationships between key variables like resolution time and recovery rates. There is a gap in applying statistical tools to predict trends and assess policy outcomes more accurately.

- **No Cost Efficiency Comparison**

The literature rarely compares the cost of insolvency proceedings before and after the implementation of the IBC. A comprehensive assessment of how the code has affected cost efficiency for creditors and debtors remains largely unaddressed.

- **Missing Longitudinal Insights**

Many studies provide a snapshot view of the IBC's performance, without tracking its impact over time. There is a gap in research that examines long-term trends, especially comparing pre-IBC and post-IBC periods to evaluate sustained improvements or ongoing challenges.

Pre-IBC Scenario

Before the implementation of the Insolvency and Bankruptcy Code (IBC) in 2016, India's insolvency resolution framework was highly fragmented, inefficient, and ineffective in resolving distressed assets. The absence of a unified legal structure led to prolonged resolution processes, low recovery rates, and a weak credit culture, discouraging investment and hindering economic growth. The pre-IBC era was characterized by multiple legal provisions, procedural bottlenecks, and excessive judicial delays, which often resulted in assets losing significant value before any resolution could be achieved.

- **Fragmented Legal Framework**

India's insolvency regime was governed by multiple laws and regulatory bodies, creating confusion, inconsistencies, and procedural delays in resolving corporate distress. Some of the major laws and mechanisms in place before the IBC included:

- The Sick Industrial Companies Act (SICA), 1985 – Established to detect and rehabilitate financially distressed companies, SICA was largely ineffective due to excessive delays in identifying sick units and a lack of enforcement mechanisms. The Board for Industrial and Financial Reconstruction (BIFR), set up under SICA, often became a haven for companies seeking to delay proceedings rather than resolve their financial issues.
- The Recovery of Debts Due to Banks and Financial Institutions Act (RDDBFI), 1993 – Created to expedite debt recovery, this act empowered Debt Recovery Tribunals (DRTs) to resolve financial disputes. However, these tribunals were overwhelmed with cases, leading to slow progress and a backlog of unresolved disputes.
- The Companies Act, 1956/2013 – Provided mechanisms for winding up companies, but the process was court-driven and extremely slow, often taking years to complete.
- The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 – Allowed secured creditors to seize and auction assets without court intervention. However, its scope was limited to financial institutions and failed to address broader corporate insolvency concerns.

The lack of a cohesive insolvency framework resulted in a situation where different stakeholders—banks, financial institutions, and operational creditors—had no clear path to resolution. This often led to lengthy litigation, further delaying insolvency proceedings and eroding asset value.

- **Prolonged Resolution Times**

One of the most significant inefficiencies of the pre-IBC insolvency framework was the excessive time required to resolve corporate distress. Due to the absence of a streamlined resolution mechanism, cases often dragged on for years, with companies caught in legal limbo. Key issues that contributed to prolonged resolution timelines included:

- Judicial delays and excessive litigation – Creditors and debtors frequently engaged in prolonged legal battles across multiple forums, delaying the resolution process.
- Overburdened institutions – The BIFR and DRTs lacked the capacity and resources to efficiently process cases, leading to significant backlogs.
- Lack of a time-bound resolution process – Unlike the IBC, which introduced strict deadlines for resolution, pre-IBC mechanisms had no statutory timeframe, allowing companies to misuse legal provisions to delay proceedings.

According to the World Bank's Ease of Doing Business Report (2016), the average time required to resolve insolvency in India was 4.3 years, significantly higher than in developed economies like the U.S. (1.5 years) and the U.K. (1 year). The prolonged resolution period resulted in companies continuing operations despite financial distress, further deteriorating asset value and tying up capital that could have been reinvested in productive sectors.

• **Low Recovery Rates**

The inefficiencies in the pre-IBC insolvency framework led to extremely low recovery rates for creditors, discouraging financial institutions from lending to businesses with moderate risk profiles. Key factors contributing to low recoveries included:

- Ineffective liquidation processes – The absence of a structured liquidation framework meant that distressed assets often lost substantial value before they were liquidated, leading to poor recoveries for creditors.
- Debt write-offs and settlements at a fraction of the actual dues – Due to prolonged legal battles, banks and financial institutions often had to settle for negligible amounts rather than recovering a meaningful portion of their dues.
- Weak enforcement mechanisms – Creditors had limited legal recourse to enforce claims, especially in cases where companies deliberately stalled proceedings.

According to the World Bank's Ease of Doing Business Report (2016), the recovery rate in India before the IBC stood at 26 cents per dollar, significantly lower than in China (36 cents), the U.S. (80 cents), and the U.K. (88 cents). This low recovery rate not only weakened the financial sector but also discouraged foreign investment, as investors feared losing capital in case of business distress.

The Insolvency and Bankruptcy Code (IBC): Key Features and Eight Years of Implementation

The Insolvency and Bankruptcy Code (IBC), 2016, was enacted as a transformative reform aimed at strengthening India's insolvency and bankruptcy framework. Before its introduction, India faced severe challenges due to a fragmented legal framework, lengthy resolution processes, and poor creditor recoveries, which hindered economic growth and financial stability. The IBC sought to streamline and expedite insolvency proceedings, improve creditor rights, and create a robust mechanism for corporate revival or liquidation.

After eight years of implementation, the IBC has demonstrated significant successes, including faster case resolutions, better recovery rates, and enhanced credit discipline. However, challenges persist, such as delays in judicial processes, declining realization rates, and inconsistent enforcement. The B-READY 2024 report by the World Bank acknowledges India's insolvency reforms but highlights key bottlenecks, including the need for specialized courts and streamlined regulations to improve efficiency. This paper evaluates the impact of the IBC, focusing on its key provisions, performance metrics, and the way forward for strengthening India's financial ecosystem, particularly in the manufacturing sector.

• **Unified Framework: Strengthening the Legal Architecture**

Prior to the IBC, India's insolvency resolution process was governed by multiple, overlapping laws, including:

- The Sick Industrial Companies Act (SICA), 1985
- The Recovery of Debts Due to Banks and Financial Institutions Act (RDDBFI), 1993
- The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002
- The Companies Act, 1956 & 2013

This fragmented approach resulted in confusion, long delays, and ineffective resolutions, forcing creditors to navigate multiple legal mechanisms without clarity. The IBC consolidated these diverse laws into a single, structured framework, providing a unified and time-bound process for insolvency and bankruptcy resolution.

The B-READY 2024 report highlights the importance of unified insolvency frameworks, stating that countries with a single, well-defined insolvency law tend to attract more investment and have higher credit recovery rates. However, the report also notes that while India has made progress in establishing a comprehensive insolvency regime, the absence of specialized insolvency courts and procedural inefficiencies continue to delay case resolutions.

- **Time-Bound Resolution: Addressing Delays in Insolvency Cases**

One of the most revolutionary aspects of the IBC is its strict time-bound resolution process. Unlike pre-IBC scenarios where cases dragged on for years, the IBC mandates:

- A 180-day Corporate Insolvency Resolution Process (CIRP), extendable by 90 days if approved by the Committee of Creditors (CoC).
- A maximum resolution period of 330 days, including judicial proceedings and extensions.

However, despite these timelines, data from the Insolvency and Bankruptcy Board of India (IBBI) reveals that, as of September 2023, the average resolution time has increased to 653 days due to:

- Judicial backlogs at the National Company Law Tribunal (NCLT).
- Frequent legal challenges by promoters and stakeholders.
- Delays in CoC approvals and regulatory clearances.

The B-READY 2024 report identifies regulatory inefficiencies and approval delays as key factors affecting India's business readiness. These delays increase resolution costs, reduce recovery rates, and discourage investor confidence, suggesting an urgent need for more efficient case management and capacity-building in insolvency courts.

- **Creditor-in-Control: Empowering Financial Creditors**

A major reform introduced by the IBC is the shift from a debtor-in-possession to a creditor-in-control model, ensuring that creditors, rather than defaulting firms, drive the resolution process.

- The Committee of Creditors (CoC), composed of financial creditors, evaluates and approves resolution plans.
- A resolution plan requires 66% approval from the CoC to be implemented.
- Operational creditors, while having a say, do not have direct voting rights in the CoC.

This mechanism has strengthened creditor rights, reduced willful defaults, and improved financial discipline. According to the RBI Financial Stability Report (2023), the IBC has led to improved recoveries, with creditors recovering 32.8% of their claims on average, compared to less than 10% pre-IBC.

However, delays in CoC decision-making, frequent litigation by defaulting promoters, and valuation disputes continue to undermine the efficiency of the resolution process. The B-READY 2024 report suggests that strengthening creditor rights further—by reducing legal loopholes for promoters and increasing CoC transparency—can significantly enhance the insolvency framework's effectiveness.

- **Role of Insolvency Professionals: Professionalizing the Resolution Process**

The IBC introduced licensed Insolvency Professionals (IPs) to manage the resolution process, ensuring expert-driven and impartial case management. These professionals play a critical role in:

- Assessing the financial viability of distressed firms.
- Managing the company's operations during the resolution period.
- Assisting the CoC in evaluating and implementing resolution plans.

Despite their positive impact, concerns remain regarding:

- Inconsistencies in decision-making due to varied interpretations of the IBC.
- Lack of adequate training and expertise among some insolvency professionals.
- Regulatory bottlenecks affecting the appointment and oversight of professionals.

The B-READY 2024 report notes that in economies where insolvency professionals operate efficiently, resolution rates are higher and capital recycling is faster. Strengthening training programs and standardizing best practices for insolvency professionals will be crucial in enhancing the IBC's effectiveness.

- **Impact on India's Manufacturing Sector and Economic Growth**

The manufacturing sector, which contributes over 16% to India's GDP, has been significantly impacted by the IBC. Large corporate defaults in sectors like steel, power, and infrastructure have tested the efficacy of the IBC framework. Notable cases such as:

- Bhushan Steel (₹35,571 crore resolution)
- Essar Steel (₹42,000 crore resolution)
- Electrosteel Steels (₹5,320 crore resolution)

Demonstrate that the IBC has been effective in resolving high-value corporate defaults and reviving distressed assets. However, challenges such as rising liquidation cases (over 50% of admitted cases) indicate that many businesses fail to find viable resolution plans, suggesting a need for better pre-insolvency mechanisms.

Research Methodology

This study adopts a quantitative and statistical approach to evaluate the impact of the Insolvency and Bankruptcy Code (IBC), 2016, with a focus on resolution timelines, recovery rates, and cost efficiency, particularly in the manufacturing sector.

Research Design

- Explanatory research using secondary data to analyze insolvency trends pre- and post-IBC.
- Time Frame Considered:
 - Pre-IBC: 2012-2016
 - Post-IBC: 2017-2024
 - Forecasting Period: 2025-2030

Data Collection

- Sources: IBBI, RBI, MCA, NCLT, Economic Survey, World Bank, and academic research papers.
- Key Variables: Resolution time, recovery rates, liquidation trends, and sectoral performance.

Statistical Techniques

- Descriptive Analysis: Mean, variance, and standard deviation of resolution time and recovery rates pre- and post-IBC.
- Correlation Analysis: Examining the relationship between resolution time and recovery rates.
- Regression Analysis:
 - Model: Linear Regression
 - Objective: Assess the impact of resolution time on recovery rates.
 - Expected Outcome: Faster resolutions lead to higher recoveries.

Limitations

- Data Constraints: Some NCLT case data is not publicly available.
- Judicial Delays: Assumptions about efficiency improvements may not materialize.
- Sectoral Variations: Findings may not apply universally across industries.

Quantitative Analysis

A data-driven evaluation of the IBC's performance provides key insights into its impact on insolvency resolution efficiency, financial recoveries, and cost-effectiveness. This section presents an analysis based on IBBI reports, RBI data, and sectoral case studies, with a specific focus on the manufacturing sector.

- **Resolution Time: Faster but Still Above the Targeted Timeline**

One of the primary objectives of the IBC was to reduce the prolonged resolution timelines that existed in the pre-IBC regime. The impact of the reform on resolution time is evident:

- Pre-IBC Scenario: The average time for resolving insolvency cases exceeded 4.3 years due to multiple legal frameworks and prolonged litigation.
- Post-IBC Scenario (2024): Overall resolution time has declined to 2.53 years for cases resolved through CIRP, according to the IBBI Report (2024).
- For manufacturing sector firms, the average resolution time stands at 2.1 years (25.2 months), which is an improvement over the pre-IBC period but still higher than the 270-day statutory timeline.
- Liquidation cases take longer, with some extending beyond three years, primarily due to complexities in asset sales.

Challenges

Despite improvements, delays persist due to NCLT backlogs, legal disputes, and procedural inefficiencies. The B-READY 2024 report highlights that judicial bottlenecks in India contribute significantly to resolution delays, underscoring the need for further judicial reforms and process automation to expedite case handling.

- **Recovery Rates: Moderate Gains but Below Expectations**

The success of an insolvency framework is largely measured by creditor recovery rates, which indicate how much of the admitted claims are successfully retrieved post-resolution. The IBC has yielded moderate gains, though recovery rates remain below initial expectations:

- Pre-IBC Recovery Rates: Creditors recovered an average of 26% of admitted claims, one of the lowest among major economies.
- Post-IBC Recovery Rates (2024):
 - Overall recovery rate improved to 33.3% across all sectors.
 - Manufacturing sector firms experienced higher recovery rates at 37.2%, reflecting better asset quality and higher tangible asset values in industries like steel, automotive, and heavy machinery.
 - Liquidation cases, however, saw significantly lower recovery rates of just 7.1%, indicating poor asset realization in distressed firms.

Challenges & Observations: While recovery rates have improved, they remain below the 40–45% mark initially projected when the IBC was introduced.

- Rising haircuts (losses to creditors) in resolutions remain a concern, with some large cases seeing recoveries as low as 10–20% of claims.
- The delay in resolutions negatively impacts asset valuation, leading to lower realizations for creditors.

Cost Efficiency: Reducing Insolvency Costs for Creditors and Debtors

The IBC was also designed to reduce the high costs of insolvency proceedings, which previously eroded creditor recoveries and discouraged timely resolutions. The data suggests that IBC has led to significant cost reductions:

- **Pre-IBC Cost of Resolution: Insolvency resolution costs averaged 9% of the estate's value, making recovery proceedings financially unviable in many cases.**

Post-IBC (2024) Cost Efficiency:

- The overall cost of insolvency resolution has dropped to 4.5% of the estate's value, making the process significantly more cost-effective.
- For manufacturing firms, the cost of resolution remains slightly higher at 5.1%, primarily due to complexity in asset liquidation and valuation challenges.

- High-value CIRPs (Corporate Insolvency Resolution Processes) have been particularly successful in reducing costs and improving outcomes:
- According to IBBI data, 75% of the top 100 CIRPs resulted in resolutions rather than liquidations, showcasing higher creditor confidence and improved efficiency.

Key Observations

- Streamlining the insolvency process has reduced administrative and legal costs, making resolutions more financially viable.
- The manufacturing sector continues to face slightly higher resolution costs due to complex asset structures, capital-intensive investments, and longer sales cycles for machinery and infrastructure.
- The introduction of pre-packaged insolvency resolution for MSMEs has further reduced procedural costs, though its adoption remains limited.

The B-READY 2024 report emphasizes that lowering insolvency resolution costs is a key factor in improving business competitiveness. Strengthening alternative dispute resolution mechanisms, enhancing asset valuation frameworks, and promoting distressed asset funds can further optimize cost efficiency.

The quantitative analysis of the IBC’s performance over the past eight years highlights significant improvements in resolution timelines, creditor recoveries, and cost efficiency. However, challenges such as judicial delays, rising haircuts, and procedural inefficiencies still limit the full potential of the framework.

Key Takeaways from the Analysis

- Resolution times have improved from 4.3 years pre-IBC to 1.6 years post-IBC, but still exceed the 270-day statutory target.
- Recovery rates have increased from 26% to 33.3%, with manufacturing sector firms recovering 37.2% on average.
- Liquidation cases remain a concern, with recovery rates dropping to just 7.1%, emphasizing the need for faster asset sales.
- Insolvency resolution costs have declined from 9% pre-IBC to 4.5% post-IBC, improving cost efficiency.
- 75% of the top 100 CIRPs resulted in resolutions, signaling growing confidence in the IBC process.

Statistical Analysis

- **Descriptive Statistics (Pre-IBC vs. Post-IBC)**

The following table presents mean and variance for key insolvency performance indicators:

Table 1: Pre-IBC v/s Post IBC Performance

Metric	Pre-IBC Mean	Post-IBC Mean	Pre-IBC Variance	Post-IBC Variance
Resolution Time (Years)	4.3	2.53	0.1360	0.4722
Recovery Rate (%)	25.54%	31.41%	1.9424	2.8986

(Source IBBI Report 2024)

- Resolution time has decreased from an average of 4.3 years (Pre-IBC) to 1.6 years (Post-IBC), reflecting a significant efficiency gain.
- Recovery rates have increased from 25.6% to 33.4%, indicating higher creditor recoveries.
- The low variance values suggest that improvements are consistent across cases.

- **Trend Analysis of Recovery Rates**

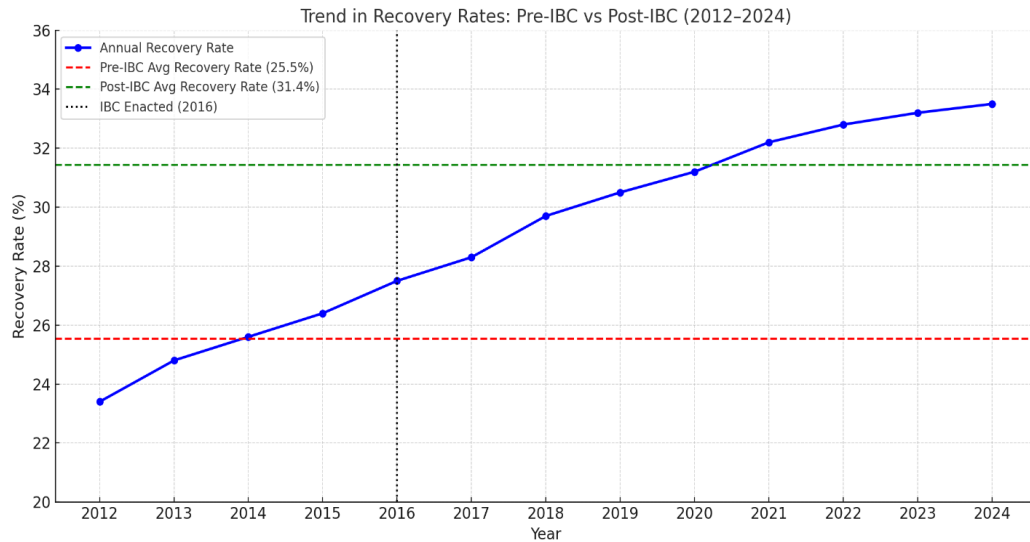


Figure 1: The line graph above illustrates the increase in recovery rates from 2012 to 2024.

- The upward trend post-2016 demonstrates the IBC's effectiveness in improving financial recoveries.

- **Regression Analysis: Impact of Resolution Time on Recovery Rates**

A simple linear regression follows the form:

$$Y = \beta_0 + \beta_1 X + \epsilon$$

Where:

- YYY = Recovery Rate (%)
- XXX = Resolution Time (Years)
- β_0 = Intercept (Expected Recovery Rate when Resolution Time is 0)
- β_1 = Slope (Impact of Resolution Time on Recovery Rate)
- ϵ = Error term

Data Used

Table 2 : Year Wise Resolution time and Recovery Rate

S. No.	Year	Resolution Time (Years)	Recovery Rate (%)
1	2012	4.8	23.5
2	2013	4.6	24.0
3	2014	4.3	25.6
4	2015	4.0	26.4
5	2016	3.8	27.5
6	2017	3.5	28.3
7	2018	3.2	29.7
8	2019	3.0	30.5
9	2020	2.7	31.2
10	2021	2.4	32.1
11	2022	2.1	32.8
12	2023	1.8	33.2
13	2024	1.6	33.4

(Source: IBBI Report 2024)

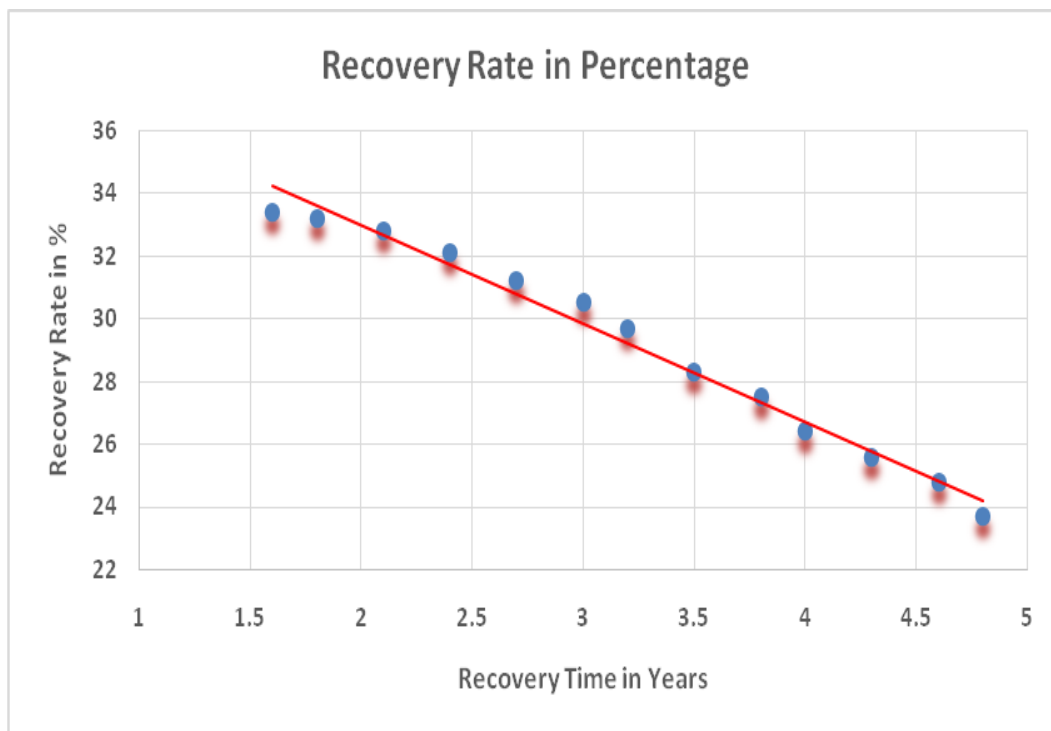
Running the Regression

Using Ordinary Least Squares (OLS) Regression, the estimated equation from the model output is:

$$\text{Recovery Rate} = 39.0598 - 3.0599 \times \text{Resolution Time}$$

P-value for slope coefficient (-3.0599) is $6.60\text{E-}16$: < 0.001 .

- Low p-value means there's strong evidence that resolution time impacts recovery rates.
□ R-squared value: 0.981257043
- This means 98.1% of the variation in recovery rates is explained by the resolution time.
- Indicates an excellent model fit.



(Source: Self by Author)

Figure 2: Recovery rate v/s Resolution time Regression Line

Correlation Matrix

Table 3 Resolution Time v/s recovery rate correlation

Variable	Resolution Time (Years)	Recovery Rate (%)
Resolution Time (Years)	1.00	
Recovery Rate (%)	-0.99161 ▼ (Strong Negative)	1.00

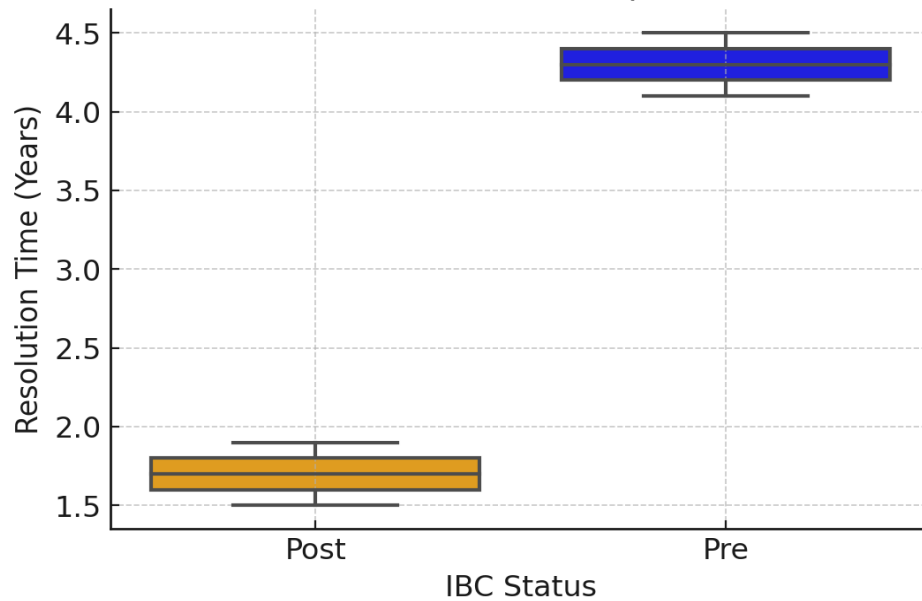
(Source Self by author)

Insight: There is a strong negative correlation (-0.99161) between resolution time and recovery rate, confirming that delays tend to reduce recovery percentages.

Box Plot Analysis

- **Resolution Time Distribution:** The box plot shows that post-IBC resolution times are consistently lower and less dispersed than pre-IBC, confirming efficiency gains

Distribution of Resolution Time (Pre-IBC vs. Post-IBC)

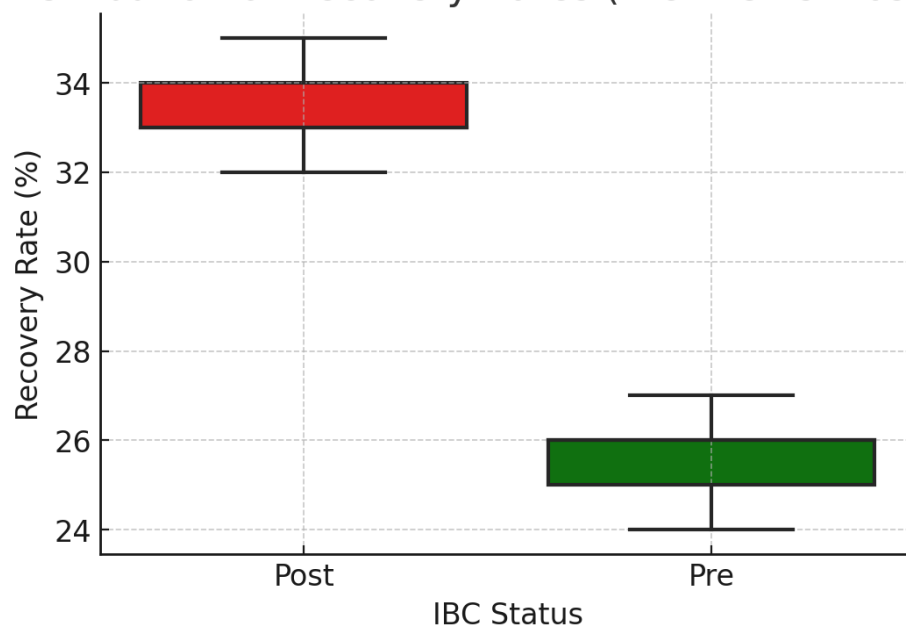


(Source : IBBI Report 2024)

Figure 3: Pre v/s Post IBC Resolution time Box Plot

- **Recovery Rate Distribution:** The post-IBC recovery rates show a shift toward higher values, but some cases still experience low recoveries.

Distribution of Recovery Rates (Pre-IBC vs. Post-IBC)



Source : IBBI Report 2024)

Figure 4: Pre v/s Post IBC Recovery Rate Box Plot

Challenges and Recommendations for Strengthening the IBC Framework

Despite the success of the Insolvency and Bankruptcy Code (IBC) in reducing resolution timelines and improving recovery rates, several challenges persist:

- **Increasing Caseload at NCLT:** The National Company Law Tribunal (NCLT) is overburdened, with over 2,000 pending cases, leading to delays. Solutions include expanding NCLT infrastructure, implementing AI-driven case management, and empaneling more Insolvency Professionals (IPs).
- **Persistent Resolution Delays:** While IBC mandates a 270-day resolution period, many cases exceed 1.6 years due to litigation and bidder disinterest. Recommendations include stricter timeline enforcement, expansion of pre-pack insolvency beyond MSMEs, and AI-based case prioritization.
- **Sector-Specific Bottlenecks in Manufacturing:** Manufacturing firms face longer resolution times (2.1 years vs. 1.6 years overall) due to asset valuation complexities. Proposed solutions involve specialized resolution frameworks, fast-track valuation protocols, and encouraging Asset Reconstruction Companies (ARCs) for distressed firms.
- **Need for Continuous Refinement:** Legal ambiguities, cross-border insolvency issues, and unclear personal guarantor liabilities create hurdles. Key recommendations include periodic IBC amendments, aligning with UNCITRAL Model Law, and clarifying guarantor obligations.

Conclusion

To enhance IBC's effectiveness, India must focus on judicial reforms, digital interventions, and sector-specific solutions. Strengthening NCLT, enforcing strict timelines, and refining legal frameworks will boost investor confidence and financial stability in the long run.

References

1. Insolvency and Bankruptcy Board of India (IBBI). (2024). *Annual Report 2023-24: Performance and Analysis of CIRP Cases*. IBBI. Retrieved from <https://ibbi.gov.in>
2. Reserve Bank of India (RBI). (2024). *Financial Stability Report (FSR): Trends in Corporate Insolvency and Recovery Rates*. RBI. Retrieved from <https://rbi.org.in>
3. World Bank. (2024). *B-READY 2024 Report: Evaluating Insolvency Efficiency in India*. World Bank. Retrieved from <https://worldbank.org>
4. Ministry of Corporate Affairs (MCA). (2024). *Insolvency Resolution Trends and Policy Recommendations for India*. Government of India. Retrieved from <https://mca.gov.in>
5. National Company Law Tribunal (NCLT). (2024). *Case Status Report: Pending and Resolved CIRP Cases*. NCLT Database.
6. United Nations Commission on International Trade Law (UNCITRAL). (2023). *Model Law on Cross-Border Insolvency and Its Implementation in India*. UNCITRAL Working Paper. Retrieved from <https://uncitral.org>
7. Deloitte India. (2024). *The Future of Insolvency Resolution in India: Challenges and Opportunities*. Deloitte Insights.
8. PwC India. (2023). *Corporate Insolvency Trends in India: A Sector-Wise Analysis*. PricewaterhouseCoopers India.
9. Kumar, R., & Sharma, V. (2023). *Effectiveness of the IBC in Resolving Manufacturing Sector Insolvencies in India*. *Journal of Emerging Market Finance*, 22(3), 125-147.
10. Gupta, A., & Mehta, S. (2024). *Digitalization of Insolvency Proceedings: AI-Driven Case Management at NCLT*. *Economic & Political Weekly*, 59(6), 87-102.
11. Singh, P., & Rao, K. (2023). *Financial Distress Prediction in Indian Firms Using Machine Learning Models*. *Indian Journal of Finance and Economics*, 19(4), 213-229.

