

WHITEPAPER

Strengthening MSME Credit Inclusion in India through **PAYDEX-Based Risk Signals**

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Executive Summary

- The MSME credit gap in India exists largely because lenders lack a clear, up-to-date view of businesses, leading to overly cautious or declined lending decisions
- Payment behaviour data offers an early and reliable signal of business health, often revealing stress before it becomes visible in financial records
- The PAYDEX score converts this behaviour into a simple measure, helping lenders assess how consistently a business meets its obligations
- The findings show a clear pattern: businesses with weaker payment behaviour are far more likely to fail, making it a strong early warning indicator
- The analysis shows that PAYDEX does not just fill data gaps, but strengthens risk assessment even when financial data is available, improving the overall reliability of credit decisions
- Integrating PAYDEX into credit decision models can help financial institutions improve screening, price risk more accurately, and intervene earlier – expanding MSME credit inclusion without weakening underwriting standards



The MSME Credit Challenge Is Increasingly a Data Challenge

The difficulty in MSME lending is often described as a capital access problem, but in practice it is just as much an information problem. Lenders are expected to assess risk with confidence, yet many MSMEs do not fit neatly into conventional underwriting templates. Financial statements may be delayed, incomplete, or too static to reflect current business conditions. Credit histories may be thin. Banking behaviour may not fully represent commercial discipline. In such an environment, the absence of reliable and timely signals often produces one of two outcomes: credit is extended only on highly restrictive terms, including elevated pricing and excessive collateral requirements, or it is withheld altogether.

That gap matters because MSME credit should not be reduced to a binary choice between prudence and inclusion. The real task is to improve visibility. A lender that has only partial information will naturally gravitate towards conservative decision-making. But if better behavioural indicators are available, especially those that capture how a business actually meets obligations in the market, the underwriting process can become both sharper and fairer.

This is where payment behaviour becomes strategically important. A business's pattern of paying suppliers, vendors, and counterparties often reveals stress earlier than formal distress events do. Businesses rarely move from apparent normalcy to insolvency overnight. Weakening payment discipline tends to appear first in delayed settlements, stretched terms, or deteriorating consistency. That makes payment behaviour one of the clearest real-economy signals of emerging credit stress.



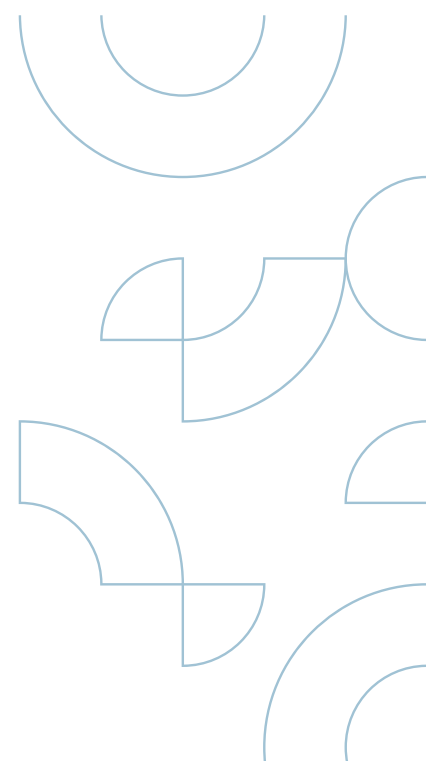
Why PAYDEX Matters

The PAYDEX score brings structure and comparability to this behavioural layer. It translates actual payment conduct into a standardised score that can be interpreted consistently across firms. The D&B PAYDEX® is a dollar-weighted indicator intended to reflect a business's past payment performance. Companies receive a score between 1 and 100, where a higher number represents a greater likelihood that a business will pay its debts on time. This proprietary score is calculated based upon Trade Experiences, which are records of payment experiences submitted to Dun & Bradstreet by suppliers and vendors, subject to Dun & Bradstreet's review, verification, and approval process.

Unlike annual accounts, payment behaviour is closer to the rhythm of actual commerce. It reflects operating discipline, short-term liquidity management, and the way a business functions inside the supply chain. In other words, it tells lenders not only what a firm reported, but how the firm behaved.

This is also why payment data is particularly valuable when financial visibility is limited. For a borrower with sparse filings or a short formal credit trail, strong payment behaviour may still indicate commercial reliability. Equally, for a borrower whose financials appear acceptable on paper, weakening payment conduct may indicate building stress before it becomes evident in formal accounts. In both directions, the PAYDEX score helps close the gap between static financial reporting and live operating reality.

There is also broader evidence that payment behaviour improves failure prediction in credit markets. In the United States, Jarl G. Kallberg and Gregory F. Udell, in 'The value of private sector business credit information sharing: The US case', show that exchange-generated payment information such as PAYDEX provides significant incremental explanatory power in firm-failure models even after controlling for other credit information and financial statement variables. In the United Kingdom, Nicholas Wilson, Barbara Summers and Robert Hope, in 'Predicting Corporate Failure and Payment Behaviour: Addressing Some Pertinent Issues for Practitioners', find that payment behaviour data adds incrementally to the predictivity of corporate failure models and can also be used to predict future payment behaviour. Taken together, these studies show that the predictive value of behavioural payment data is already proven in the contexts of the US and the UK, reinforcing the case for using PAYDEX-style signals as part of credit risk assessment.

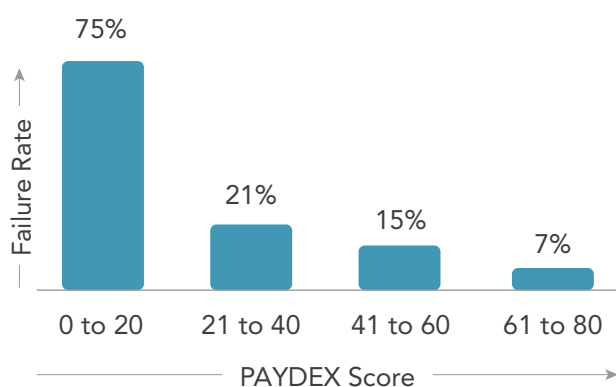


An India-Focused Test of PAYDEX as a Leading Indicator

To examine the role of payment behaviour in the Indian context, this analysis draws on a sample of firms that in FY26 either entered formal distress under the Insolvency and Bankruptcy Code (IBC) or were declared as wilful defaulters by financial institutions under guidelines set by the Reserve Bank of India. To create a meaningful comparison, the failed-firm sample was paired with a random sample of firms from Dun & Bradstreet's database that did not fail. This allowed the analysis to compare observed payment behaviour across failed and non-failed firms, rather than viewing distress cases in isolation.

The analysis proceeds in two steps. First, it examines failure rates by PAYDEX bucket, where the failure rate is defined as the number of failed firms at a given PAYDEX level divided by the total number of firms in that same PAYDEX group. To make the pattern easier to interpret, the PAYDEX score was grouped into four buckets. Second, it estimates a multivariate model to test whether the PAYDEX score retains predictive power after controlling for selected financial statement variables.

Failure Rate by PAYDEX Band



For the failure-rate analysis, the PAYDEX score for March 2025 was used as the primary behavioural input. The objective at this stage was to test whether weaker payment performance was associated with a higher observed incidence of subsequent distress. The results show a clear gradient even before introducing any control variables.

The pattern is clear. Failure rates are highest in the weakest PAYDEX bucket and fall sharply as the PAYDEX score improves. Firms in the 0 to 20 bucket show a failure rate of 75%, compared with 21% in the 21 to 40 bucket, 15% in the 41 to 60 bucket, and 7% in the 61 to 80 bucket. This is the kind of monotonic relationship lenders look for in a practical behavioural risk indicator: weaker payment behaviour is associated with a meaningfully higher observed incidence of distress.

The second step of the analysis moves from this descriptive view to a multivariate framework. Here, the PAYDEX score for March 2025 is tested alongside selected financial statement variables constructed as differences across the latest two accounting periods available up to FY25. This makes it possible to assess whether the PAYDEX score continues to carry predictive value after accounting for financially observable deterioration.

What the Model Shows

To test whether payment behaviour can meaningfully anticipate distress, we built a simple bankruptcy prediction model using the PAYDEX score alongside selected financial variables. The purpose of the model was straightforward: to assess how reliably a business's payment conduct, combined with key balance-sheet indicators, could distinguish between firms that later failed and firms that did not.

The results are strong. On the test sample, the model classified firms correctly in about 87% of cases. It was able to identify most failed firms while also correctly recognising the large majority of non-failed firms. In practical terms, this means the model is not simply reacting to obvious distress after the fact; it is able to separate higher-risk businesses from healthier ones with a high degree of reliability.

Its performance is also balanced, which is important from a lending perspective. The model correctly identified around 82% of the failed firms in the test set, while correctly classifying around 89% of the non-failed firms. That balance matters because a useful credit model must do two things at once: detect risk early enough to be operationally meaningful and avoid labelling too many viable businesses as distressed.

The model therefore adds more than statistical support to the argument. It shows, in practical terms, that the PAYDEX score improves the lender's ability to predict bankruptcy with useful accuracy. Just as importantly, the PAYDEX score remains statistically highly significant even after selected financial variables are taken into account. That tells us payment behaviour is not only helpful when financial information is missing. It is also valuable when financial information is present, making it a genuine incremental risk signal rather than a fallback proxy.



Why This Matters for Credit Inclusion

The significance of this finding extends well beyond model performance. It goes to the heart of credit inclusion. Much of the exclusion in MSME finance does not arise because businesses are inherently unlendable. It arises because they are insufficiently visible within traditional credit frameworks. If underwriting depends too heavily on audited financial statements, collateral depth, or long formal credit histories, a large segment of otherwise viable enterprises remains outside the circle of confidence.

The PAYDEX score offers a way to change that. It gives lenders a behavioural basis on which to form a view, even when formal financials are thin or delayed. That does not mean replacing rigorous underwriting with a softer proxy. It means expanding the information set in a disciplined way.

This can materially improve three aspects of MSME lending:

1. It can strengthen screening. Firms with stronger payment behaviour can be separated more effectively from firms already showing signs of commercial strain.
2. It can improve risk calibration. Rather than applying blunt pricing or conservative cut-offs to under-documented borrowers, lenders can differentiate more precisely.
3. It can support timelier intervention. Deterioration in the PAYDEX score can trigger closer review, tighter monitoring, or adjusted limit management before stress escalates into default.

In this sense, the PAYDEX supports inclusion not by lowering standards, but by enabling better-informed standards. The result is a more evidence-based approach to deciding who should receive credit, on what terms, and with what degree of monitoring.



Conclusion

As India sharpens its focus on MSME growth and credit access, underwriting frameworks must evolve beyond narrow dependence on static financial information. The evidence in this paper shows that the PAYDEX score has real predictive value in identifying severe credit distress, and that this value persists even after accounting for financial statement variables. That makes it both a useful standalone signal when financials are unavailable and a meaningful enhancer of credit models when financials are available.

More importantly, the PAYDEX score works as a leading indicator. By using March 2025 payment behaviour against firms that entered distress in FY26, this analysis demonstrates the practical relevance of payment conduct as an early warning marker. In a segment where timeliness of information can materially shape credit outcomes, that is not a minor advantage. It is a strategic one.



Technical Appendix

Failure Rate by PAYDEX Band

PAYDEX bucket	Failed firms	Non-failed firms	Total firms	Failure rate
0 to 20	59	20	79	75%
21 to 40	6	22	28	21%
41 to 60	8	47	55	15%
61 to 80	20	257	277	7%
Total	93	346	439	21%

Model Design

For the purposes of this analysis, a firm was treated as “failed” if it was either admitted under the IBC or classified as a wilful defaulter in FY26. Of the previously selected sample, a balanced dataset was available for 177 firms, consisting of 60 failed firms and 117 non-failed firms. To develop and validate the model, 70% of the sample was randomly used to train the model, while the remaining 30% was retained to test its validity. The objective was to assess whether the PAYDEX score for March 2025 could predict subsequent distress. To ensure that the model also accounted for financial information where available, selected financial variables were constructed as the change in ratios across the latest two accounting periods

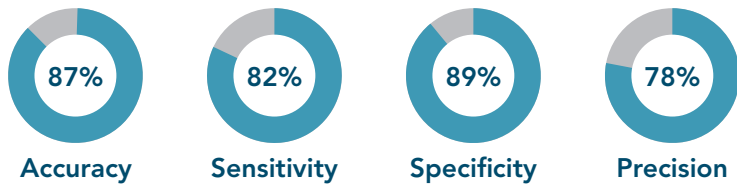
available up to FY25. This framework positions PAYDEX as a leading behavioural variable rather than a coincident indicator.

The goal here was not to construct an overly complex bankruptcy prediction framework. Rather, it was to test a more focused proposition: whether the PAYDEX score adds meaningful incremental explanatory power beyond conventional financial indicators. Hence, this analysis should be interpreted as a focused empirical test rather than a full production model. The results establish directional and practical relevance, while also supporting further validation on broader samples and additional borrower segments.

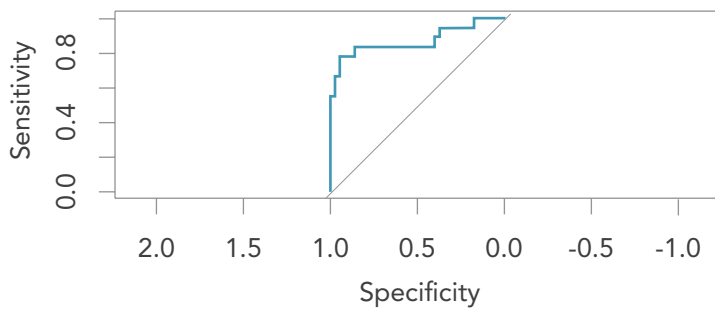
Observed vs Predicted Outcomes (Test Sample)

	Predicted 0	Predicted 1	Total
Actual 0 (Non-Failed)	32	4	36
Actual 1 (Failed)	3	14	17
Total	35	18	53

Classification Performance



Receiver Operating Characteristic Curve



Area under Curve: 0.87





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