



Credit Restructuring Strategies for Non-Performing Loan Reduction: Evidence from Bank Papua Timika Branch

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Abstract

Purpose: This study examines the trends and drivers of non-performing loans (NPL) and evaluates the effectiveness of credit restructuring strategies at Bank Papua Timika Branch, a regional development bank in Mimika Regency, Papua Tengah Province, Indonesia.

Research Methodology: A descriptive qualitative design was used with in-depth interviews of six purposively selected informants (PB1–PB6) and internal financial data from 2017–2023. Data analysis followed the Miles and Huberman model, with organizational factors synthesized via SWOT and McKinsey 7S, and debtor risks evaluated using the 5C framework (Character, Capacity, Capital, Collateral, Condition).

Results: NPL ranged from 0.82–0.84% in 2017–2019, rose to 1.75% in 2020 due to COVID-19, and dropped to 0.77% by 2023 after restructuring. The IDR 34.344 billion portfolio, concentrated in construction, MSME, and mining, was mainly driven by capacity and economic factors. Restructuring recovered 60–75% of debtors, while 25–30% remained non-performing.

Conclusions: Effective NPL reduction requires integrated strategies combining sector-specific restructuring, proactive 5C-based debtor assessment, McKinsey 7S organizational alignment, and sensitivity-informed risk projection rather than generic portfolio-level measures.

Limitations: The study covers a single branch and uses qualitative methods, limiting causal inference and formal NPL forecasting.

Contributions: The study introduces a multi-framework evaluation model (5C × McKinsey 7S × sectoral portfolio × sensitivity analysis) for NPL management in regional resource-based banks, contributing to credit risk and community banking literature in Eastern Indonesia.

Keywords: Credit Restructuring, Credit Risk Management, Non-Performing Loans, Regional Banking, Sectoral Portfolio Analysis

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1. Introduction

The intermediation function of commercial banking—mobilizing savings and channeling them as credit to productive economic actors—constitutes the foundational mechanism through which banks contribute to the national economic development. Credit risk, which is inherent in this function, determines both institutional stability and the quality of financial intermediation (Felle & Santioso, 2024; Susalit & Rahayu, 2025). Non-performing loans (NPL), defined as credit classified as sub-standard, doubtful, or loss under Bank Indonesia Regulation No. [insert number] 14/15/PBI/2012, constitute the primary

quantitative indicator of credit risk materialization. When NPL ratios exceed the regulatory ceiling of 5%, institutional financial health, liquidity, and return on assets are measurably impaired (Herfina & Muchda, 2025; Putra et al., 2025). The management of NPL through credit restructuring—adjusting repayment schedules, credit conditions, or credit structures without eliminating principal or interest obligations—is therefore a central operational and strategic challenge for banking institutions.

The Bank Papua Timika Branch operates within a governance and economic environment that generates distinctive credit risk dynamics. Mimika Regency, located in Papua Tengah Province, hosts the internationally scaled Grasberg copper and gold mining complex operated by PT Freeport Indonesia, making it one of Indonesia's highest-GDP regencies, but also one whose economic activity is highly concentrated in a single commodity-dependent sector. More than 70% of local economic activity depends on mining operations and their extensive supply chains in construction, trade, and services, a structure that creates deep procyclical risk. When commodity prices decline or mining operations are disrupted, the transmission to credit quality across construction, MSME, and service sector debtors is rapid and extensive. This resource-extraction economic context makes Mimika a theoretically significant case for examining how regional development banks manage NPL through restructuring in environments characterized by systemic sectoral risk concentration rather than diversified economic bases.

The Bank Papua Timika Branch's NPL data for 2017–2023 reveal a trajectory that mirrors both the branch's internal management capacity and the impact of external shocks. The aggregate NPL ratio remained stable at 0.82–0.84% during 2017–2019, spiked sharply to 1.75% in 2020 as COVID-19 disrupted project-based and MSME cash flows simultaneously, and then declined progressively to 0.77% by 2023 as restructuring interventions took effect and the regional economy recovered. This trajectory—stable, shock, and partial recovery—provides a natural longitudinal window for examining how restructuring strategies interact with sectoral risk concentration and debtor-level factors to produce portfolio quality outcomes.

Despite growing scholarly attention to NPL determinants and credit restructuring effectiveness in Indonesian banking, significant research gaps persist. Existing studies examine NPL trends at the national bank level (Hartati et al., 2025; Siagian, 2024), evaluate restructuring policies during the COVID-19 pandemic (Alfonso, 2023; Rahayu et al., 2024; Rimbawan, 2022), or assess MSME credit risk factors (Gustini et al., 2023; Maatuil et al., 2025) in isolation. No prior study has integrated the full analytical apparatus—5C credit analysis, McKinsey 7S organizational assessment, sectoral portfolio mapping, sensitivity analysis, and NPL projection—to evaluate restructuring strategy effectiveness in a single resource-extraction regional banking context. The specific governance and economic conditions of Eastern Indonesian regional banking, which differ substantially from Java-centric banking studies, remain systematically understudied.

This study addresses these gaps through four integrated research questions: (RQ1) What are the historical conditions and trends of NPL at Bank Papua Timika Branch, and how did the 2020 COVID-19 shock manifest across sectors? (RQ2) Which internal (5C-based debtor factors and McKinsey 7S organizational factors) and external (macroeconomic, commodity, construction project, and MSME purchasing power) factors most significantly drive NPL? (RQ3) What restructuring strategies (rescheduling, reconditioning, restructuring) have been applied, and how are they differentiated by sector? (RQ4) How effective have these strategies been in reducing NPL, and what debtor characteristics, organizational constraints, and systemic risks determine restructuring success or failure? The study contributes theoretically by developing an integrated multi-framework NPL management evaluation model applicable to resource-extraction regional banking contexts and practically by generating sector-differentiated recommendations for Bank Papua and comparable institutions.

2. Literature Review

2.1 Credit Risk and Non-Performing Loans: Theoretical Foundations

Credit risk, the probability that a borrower will fail to fulfill contractual repayment obligations, is the dominant risk category in commercial banking and the primary determinant of asset quality. Under the rational choice theory (Becker, 1968), the propensity for borrower default is a function of the expected net benefit of non-repayment relative to the costs of collection and legal enforcement. This framework predicts that credit risk increases when borrower income is disrupted (reducing repayment capacity), collateral values decline (reducing the bank's recovery position), and monitoring is inadequate (reducing detection probability). The 5C credit analysis framework operationalizes these theoretical dimensions through five debtor-level constructs: Character (integrity and repayment intent), Capacity (cash flow adequacy), Capital (equity buffer against loss), Collateral (security against default), and Condition (macroeconomic and sector context affecting business viability) (Badrian, 2025; Sadhita & Nawarcono, 2024).

Empirically, the determinants of NPL operate across multiple levels. At the macroeconomic level, interest rate increases, economic contractions, commodity price volatility, and inflationary episodes all predict NPL increases across banking systems, including Indonesian banks (Fahmi et al., 2025; Hamdi et al., 2023). At the sector level, construction credit is characterized by project-contingent cash flows, high leverage, and term payment sensitivity (Kusumawati et al., 2017; Mubarak et al., 2023; Wibowo et al., 2024); MSME credit is sensitive to local purchasing power and faces structural information asymmetry due to informal financial management (Hanif & Widawati, 2024; Maatuil et al., 2025); and mining sector credit exhibits high commodity price sensitivity with potentially large exposure values per debtor (Putro, 2025; Setiawati & Anggono, 2024). At the institutional level, credit analysis quality, monitoring systems, staff competence, and organizational governance are significant determinants of NPL outcomes (Alfiana et al., 2024; Hasanudin et al., 2021; Nur Izati et al., 2025).

2.2 Credit Restructuring: Mechanisms and Effectiveness

Credit restructuring, governed in Indonesia by the OJK Regulation No. 40/POJK.03/2019 encompasses three principal mechanisms. Rescheduling modifies the repayment schedule by extending the tenor, adjusting the installment timing, or restructuring the amortization without changing the principal amount. Reconditioning modifies credit terms, including interest rate reductions, grace period grants, and penalty waivers, to reduce the financial burden on viable debtors facing temporary distress. Restructuring involves comprehensive credit architecture changes, such as plafon additions, capitalization of interest arrears, credit facility consolidation, or equity conversion, applied to cases where rescheduling and reconditioning are insufficient (Bariroh et al., 2022; Hadiwinarto, 2025; Husnie et al., 2024).

Evidence of restructuring effectiveness in the Indonesian banking context is generally positive but contingent. Rahayu et al. (2024) document significant NPL reductions in Bank BJB Karawang through tenor extension and interest reduction during the COVID-19 pandemic. Alfonso (2023) confirms restructuring's effectiveness in containing NPL growth during pandemic conditions. Siagian (2024) shows that post-restructuring NPL levels remained well below the 5% regulatory ceiling, reflecting systemic resilience supported by provisioning (CKPN) buffers, and capital adequacy. Hartati et al. (2025) find that restructuring's NPL-reduction effectiveness is moderated by good corporate governance (GCG) quality; institutions with stronger governance achieve greater NPL reduction per unit of restructuring activity. Conversely, Miosido and Siswani (2024) and Al Rasyid et al. (2025) emphasize that restructuring effectiveness is debtor-selective: cooperative, viable debtors recover at high rates while non-cooperative debtors or those with structurally compromised businesses remain non-performing despite restructuring intervention.

2.3 McKinsey 7S Framework in Banking Credit Risk Management

The McKinsey 7S framework, originally developed for organizational alignment analysis, provides a structured approach for evaluating whether all organizational elements support the achievement of strategic objectives (Mahfud, 2020). When applied to credit risk management, the framework diagnoses the alignment between a bank's restructuring strategy and its organizational enablers: Structure (functional division and coordination between credit, monitoring, and rescue units); Systems (monitoring and reporting procedures, early warning capabilities, and technology integration); Staff (quantity and competency of credit analysts and relationship managers); Skills (technical proficiency in risk assessment, sector analysis, and restructuring design); Style (leadership approach to credit decision-making and risk tolerance); and Shared Values (organizational culture of prudential banking). Masfi and Sukartini (2022) demonstrated that Systems, Skills, and Shared Values are the most influential 7S elements in banking performance, including credit quality outcomes. This framework has not been previously applied to the evaluation of NPL management in Eastern Indonesian regional banking.

2.4 Research Gap

The literature review identifies a clear multidimensional research gap. Prior NPL and restructuring studies in Indonesia apply either debtor-level credit analysis frameworks (5C) or organizational frameworks (McKinsey 7S) in isolation and do not integrate sectoral portfolio concentration analysis, sensitivity testing, or scenario-based NPL projection within a single evaluation. Resource-extraction regional banking contexts, where commodity dependence creates systemic procyclical risk, have received minimal attention. The qualitative in-depth case study methodology employed here enables a granular, context-sensitive analysis that aggregate national-level studies cannot provide. This study integrates all these dimensions into a single framework applied to an original empirical case.

3. Methodology

3.1 Research Design and Setting

This study employs a descriptive qualitative design, which is appropriate when the research objective is to develop a deep contextual understanding of complex organizational phenomena, such as the management of credit risk through restructuring in a specific institutional and economic context (Sugiyono, 2021). The research was conducted at the Bank Papua Timika Branch (Jl. Yos Sudarso No. 4, Kwamki, Kecamatan Mimika Baru, Kabupaten Mimika, Papua 99971) from November 2025 to January 2026. The branch was selected because: (1) it has fully implemented credit restructuring programs across multiple debt recovery cycles; (2) its loan portfolio is concentrated in three economically significant sectors representing distinct risk profiles; and (3) its 2017–2023 NPL trajectory—including a 2020 shock event and subsequent recovery—provides a longitudinally informative case for restructuring effectiveness evaluation.

3.2 Informants and Data Collection

Purposive sampling was used to identify informants with direct knowledge of credit origination, monitoring, and recovery processes. Six informants were selected who met three eligibility criteria: (1) direct involvement in credit management or supervision; (2) experience handling non-performing loans or restructuring; and (3) knowledge of sector-specific debtor conditions in Mimika. Table 1 presents the participants' profiles.

Table 1. Research Informant Profiles

Code	Position	Department	Primary Role in Study
PB1	Relationship Manager – Small Commercial Credit	Marketing, Credit, Funding & Services Department	Credit strategy, sector analysis, restructuring decision-making
PB2	Credit Assistant – SME & Consumer	Marketing, Credit, Funding & Services Department	Credit analysis, capacity assessment, monitoring
PB3	Credit Assistant – SME & Consumer	Marketing, Credit, Funding & Services Department	Credit analysis, field verification, debtor communication
PB4	Funding Officer	Marketing, Credit, Funding & Services Department	Client relationship, debtor behavior assessment
PB5	Credit Rescue & Resolution Assistant	Credit Rescue & Resolution Unit	Restructuring implementation, NPL case management
PB6	Credit Administration Assistant	Credit Administration	Administrative documentation, portfolio data management

Source: Authors’ compilation based on Bank Papua Timika Branch organizational data (2025).

Table 1 presents the profiles of the six key informants selected through purposive sampling. The informants represent various functional units involved in credit management, including credit origination, monitoring, administration, funding services, and credit recovery. Their diverse roles provide comprehensive insights into the processes of credit assessment, restructuring implementation, non-performing loan (NPL) management, and sector-specific debtor conditions. This diversity of perspectives supports the credibility and depth of the qualitative analysis by enabling data triangulation across organizational functions directly related to credit risk management and restructuring practices at Bank Papua Timika Branch.

In-depth semi-structured interviews were the primary data collection method, yielding direct quotations that were integrated throughout the findings to ground analytical interpretations in practitioner knowledge. Secondary data, including internal financial reports, NPL data, portfolio composition records, and regulatory documents, were collected through a documentation review. Library research provided a theoretical and comparative empirical context.

3.3 Analytical Frameworks and Methods

Data analysis followed Miles and Huberman’s three-stage model: data reduction (selective coding of interview transcripts and documents into thematic categories), data display (organizing findings into narrative accounts, tables, and matrices), and conclusion drawing with verification through triangulation of interview data, internal documents, and prior literature. Four analytical frameworks were applied: (1) the 5C credit framework for debtor-level factor analysis; (2) the McKinsey 7S framework for organizational readiness assessment; (3) sectoral portfolio analysis for risk concentration mapping; and (4) sensitivity analysis and NPL scenario projection for a forward-looking risk assessment. The SWOT analysis synthesized internal and external findings into actionable strategic options.

4. Results and Discussion

4.1 NPL Historical Trends and Sectoral Portfolio Composition

The credit portfolio of Bank Papua Timika Branch from 2017 to 2023 maintained a constant total disbursement of IDR 34.344 billion across 30 debtor accounts, providing a controlled observation context in which NPL fluctuations reflect credit quality changes rather than portfolio expansion or contraction. Table 2 presents the complete NPL trajectory.

Table 2. NPL Trends by Sector, Bank Papua Timika Branch (2017–2023)

Year	Sector	Disbursed (IDR)	Non-Performing (IDR)	Sectoral NPL (%)	Total NPL (%)
2017	Construction / MSME / Mining	34,344,000,000	280,492,782	0.85 / 0.79 / 0.81	0.82%
2018	Construction / MSME / Mining	34,344,000,000	283,090,909	0.85 / 0.80 / 0.82	0.82%
2019	Construction / MSME / Mining	34,344,000,000	289,483,347	0.82 / 0.87 / 0.83	0.84%
2020	Construction / MSME / Mining	34,344,000,000	600,005,155	1.59 / 2.18 / 1.12	1.75%*
2021	Construction / MSME / Mining	34,344,000,000	390,492,782	1.00 / 1.35 / 0.97	1.14%
2022	Construction / MSME / Mining	34,344,000,000	318,381,922	0.91 / 1.00 / 0.81	0.93%
2023	Construction / MSME / Mining	34,344,000,000	264,104,019	0.70 / 0.80 / 0.86	0.77%

* Peak critical year.

Source: Bank Papua Timika Branch internal financial reports (2025)

Based on Table 2, the NPL trajectory is characterized by three distinct phases. During the pre-shock stability phase (2017–2019), aggregate NPL fluctuated marginally between 0.82–0.84%, with the construction and mining sectors maintaining sub-1% NPL, while the MSME sector showed gradual pressure rising from 0.79% to 0.87%. This modest MSME deterioration is consistent with Mimika’s increasing cost-of-living pressure and gradual contraction in mining-related local purchasing power prior to the pandemic and aligns with the MSME vulnerability literature’s prediction of early cycle sensitivity to local economic conditions (Maatuil et al., 2025).

The shock phase (2020) represents the most significant credit quality event during the study period. Total NPL more than doubled in one year—from IDR 289.5 million to IDR 600.0 million—as COVID-19 simultaneously disrupted project execution timelines in construction, suppressed daily commerce for MSME debtors, and created commodity price uncertainty for mining sector counterparts. MSME suffered most severely at a 2.18% NPL, followed by construction at 1.59% and mining at 1.12%. The severity gradient reflects the different resilience profiles of each sector: MSME debtors’ cash-flow dependence on daily sales made them immediately vulnerable to mobility restrictions; construction debtors faced project delays and termin payment disruptions; and mining sector debtors—fewer in number but larger in individual exposure—were partially protected by commodity price stability in 2020 but faced regulatory and operational uncertainties. PB2 confirmed the mechanism: “Construction NPL escalation reflects delays in projects and termin payments. When a project is delayed, cash flows are immediately disrupted.” These findings corroborate Alfonso (2023) and Anugrah and Akbar (2025) on COVID-19’s differential sectoral NPL impacts.

The post-shock recovery phase (2021–2023) demonstrates the progressive effectiveness of restructuring interventions and economic recovery in the Philippines. The NPL declined from 1.14% to 0.93% to 0.77% across consecutive years. The construction sector NPL showed the most dramatic recovery—from 1.59% at peak to 0.70% by 2023—reflecting both project normalization and the sector-specific design of rescheduling strategies aligned with project timelines. MSME recovery was more gradual (2.18% to 0.80%), consistent with the slower local consumption recovery. Mining sector NPL showed a modest upward drift from 0.81% (2022) to 0.86% (2023), reflecting continued commodity price volatility exposure.

4.2 NPL Drivers: 5C Debtor Factors and External Conditions

Analysis of informant accounts and secondary data identifies a two-tier factor structure underlying NPL dynamics: debtor-level internal factors assessable through the 5C framework and systemic external factors linked to Mimika’s economic structure. Table 3 summarizes the factor dominance classifications.

Table 3. NPL Factor Classification by Dominance Level

Category	Factor	Mechanism	Dominance
Internal (5C)	Capacity	Cash flow impairment directly prevents scheduled repayment; most sensitive to sector disruptions	High
Internal (5C)	Character	Non-cooperative intent and transparency deficits undermine restructuring success; worsens under stress	Moderate
Internal (5C)	Capital	Equity buffer determines stress absorption capacity; weak in MSME/construction	Low-Moderate
Internal (5C)	Collateral	Second-line loss mitigation; does not prevent NPL formation	Low
Internal (7S)	Organizational readiness	Limited HR capacity and sub-optimal monitoring systems reduce detection and intervention speed	Moderate
External	Mimika economic conditions	Mining-sector dependence transmits commodity shocks to construction, MSME, and service debtors	High
External	Commodity price volatility	Copper/gold price fluctuations affect mining debtor revenues and indirect construction/MSME demand	High
External	Construction project risks	Termin payment delays cause cash flow mismatch; project failure eliminates recovery prospect	High
External	MSME purchasing power	Local consumption decline reduces daily MSME revenues; directly constrains repayment capacity	High

Source: Authors' synthesis from informant interviews and secondary analysis (2025)

Based on Table 3, among debtor-level factors, capacity emerges as the dominant NPL driver, a finding consistently confirmed across all six informants. PB1 described the analytic approach: “We analyze cash flow based on business turnover, operational costs, and other obligations, then compute the Debt Service Coverage Ratio to confirm repayment capacity.” PB5 provided the following selectivity implication: “Only debtors who still have viable business prospects will be restructured. Without this, restructuring is ineffective.” The high dominance of capacity is theoretically consistent with the prediction of rational choice theory that impaired income capacity is the proximate cause of default and empirically consistent with Hanif and Widawati (2024) and Dewi and Ragasari (2025) on MSME cash flow vulnerability.

Character—defined as debtor integrity, communication transparency, and cooperative intent—was moderately dominant. All informants confirmed that character assessment through (Financial Information Services System for the), field visits, and behavioral observation is standard practice, but several noted that character is dynamic rather than static: debtors initially assessed as cooperative sometimes became unresponsive as business conditions deteriorated. PB5 was emphatic: “In practice, character is the primary determinant. If debtors are not cooperative, restructuring rarely works.” This finding aligns with Badrian (2025) and Syifa and Wardhani (2026) on 5C character as an NPL risk predictor and extends the literature by documenting the character’s time-varying nature under stress conditions.

External factors collectively demonstrate high dominance, reflecting the structural characteristics of Mimika’s mining-concentrated economy. PB1 articulated the transmission mechanism: “Mimika’s economy is heavily dependent on mining. When commodity prices fall, many businesses are affected and repayment capacity declines.” The empirical confirmation is the synchronous NPL increase across all three sectors in 2020, a pattern consistent with systemic economic shock rather than idiosyncratic debtor failure. Setiawati and Anggono (2024) and Putro (2025) document comparable commodity sensitivity mechanisms in nickel and coal mining financing, confirming that Mimika’s copper/gold dependence generates analogous systemic credit risk.

4.3 McKinsey 7S Organizational Readiness Assessment

A systematic assessment of the Bank Papua Timika Branch’s organizational readiness to implement effective credit restructuring through the McKinsey 7S lens reveals a pattern of adequate formal design combined with implementation constraints at the operational level.

The branch’s strategy is substantively sound: it combines preventive elements (strict 5C-based credit origination analysis and regular monitoring) with curative interventions (3R restructuring). PB3 confirmed: “Strategy also includes early identification of potentially problematic debtors.” The inclusion of sector-specific considerations in restructuring design—aligning repayment schedules with project timelines for construction debtors and using flexible installment structures for MSME—represents an emerging sophistication consistent with best-practice differentiated risk management (Rahayu et al., 2024).

The structure is functionally designed with a clear separation between credit marketing, credit analysis,

and credit rescue functions. PB1 confirmed: “There is separation of functions between marketing, analysis, and credit rescue—this supports prudential banking.” This segregation-of-duty architecture theoretically reduces moral hazard and conflict-of-interest risks (Aulia et al., 2025; Putra et al., 2025). However, PB2 noted a critical constraint: “The organizational structure is clear, but in practice there are HR limitations.” PB5 confirmed: “The credit rescue unit exists, but personnel count is limited relative to case volume.” This capacity gap is the primary constraint to structural implementation.

These systems are adequate for routine monitoring and reporting but lack the technological integration required for proactive risk management. PB6 observed: “The monitoring system is report-based but still needs strengthening from a technology side.” The absence of automated early warning systems (EWS) means that NPL detection relies primarily on routine payment schedule monitoring rather than on forward-looking cash flow signals. This explains the bank’s reactive rather than proactive restructuring pattern documented in the 2020 shock, a limitation consistent with Nur Izati et al. (2025) on EWS importance in NPL reduction.

Staff competency is adequate for basic credit functions but requires development in advanced risk analytics to improve. PB1 acknowledged: “Some analysts have received training, but not uniformly across the team.” PB5 confirmed analytical variability: “In practice, analyst capability varies.” This heterogeneity in credit analysis quality introduces inconsistency into NPL detection and restructuring design, a finding consistent with Hasanudin et al. (2021) on human capital as a critical credit management quality determinant. Skill gaps are most acute in cash flow-based lending methodologies (Dewi & Ragasari, 2025), sector-specific risk analysis, and sensitivity analysis techniques. Style reflects a collective, analysis-based, prudentially oriented decision-making culture that is theoretically appropriate for NPL management (Hartati et al., 2025; Siagian, 2024), although deliberative processes can occasionally delay responses to rapidly deteriorating credits. Shared Values of prudential banking are embedded in operating procedures but require more consistent operationalization across all staff (PB6): “The culture of prudence already exists, but needs consistency in implementation.”

4.4 Restructuring Strategies: Design, Application, and Sectoral Differentiation

Three restructuring mechanisms are deployed at the Bank Papua Timika Branch, each targeting distinct severity levels and debtor profiles. Table 4 presents a comparative framework.

Table 4. Restructuring Strategy Comparison: Design, Application, and Outcomes

Strategy	Mechanism	Primary Target	Recovery Rate	Recovery Timeline
Rescheduling	Tenor extension; installment schedule adjustment; repayment timing modification without changing principal	Construction/MSME: temporary cash flow disruption; project delay	70–75%	6–12 months
Reconditioning	Interest rate reduction; grace period grant; penalty waiver; partial interest capitalization	Debtors with moderate financial pressure; viable businesses facing temporary liquidity stress	65–70%	12–18 months
Restructuring	Comprehensive credit architecture modification: plafon adjustment, interest capitalization, facility consolidation, equity conversion	Construction/Mining: large-exposure complex cases; permanently changed business conditions	60%	18–36 months

Based on Table 4, rescheduling is the most frequently applied strategy, primarily because it is administratively efficient, quickly implementable, and directly addresses the most common NPL trigger—temporary cash flow mismatches, rather than fundamental business impairment. PB1 confirmed its primacy: “The most commonly used strategy is rescheduling—installment schedule adjustment. It is most common because it is relatively easy to apply and can immediately align with the debtor’s repayment capacity.”

PB6 noted the administrative logic: “Rescheduling is most frequently applied because its process is faster compared to comprehensive credit structure changes.” The significant NPL reduction from 1.75% (2020) to 1.14% (2021)—a 35% absolute improvement in one year—reflects the effectiveness of rescheduling as a first-line treatment for temporary disruption, consistent with [Rahayu et al. \(2024\)](#) and [Syam and Asyam \(2026\)](#).

Sector differentiation in restructuring design is a critical feature of the branch approach. For construction sector debtors, schedules are explicitly aligned with project timelines: “For the construction sector, it is usually adjusted to the project timeline,” (PB1). This project-contingent rescheduling design reflects an understanding of construction cash flow mechanics, where receipts are term-based rather than monthly, and represents a practical implementation of the sector-specific risk analysis principle advanced by [Mubarok et al. \(2023\)](#) and [Rahayu et al. \(2024\)](#). For MSME debtors, restructuring is designed around daily or weekly cash flow patterns: “MSME is more toward adjusting daily or monthly cash flows,” (PB1). For mining sector debtors, commodity price trajectories drive restructuring timing, with payment deferrals applied during price downturn periods (PB3). PB5 synthesized the sectoral logic: “We differentiate strategies by sector—construction is project-based, MSME is cash-flow based, and mining is commodity-price based.”

4.5 Restructuring Effectiveness and Residual Risk

The combined effectiveness of the three-mechanism restructuring program is evidenced by the sustained NPL reduction from the 1.75% peak to 0.77% over three years—a 56% cumulative reduction. Approximately 65–75% of restructured debtors returned to performing status, with rates varying by mechanism: rescheduling (70–75%), reconditioning (65–70%), and restructuring (approximately 60%); these differential recovery rates reflect both the varying severity of underlying credit problems and the debtor selection logic applied to each mechanism. PB2 confirmed: “Effectiveness is seen from the reduction in non-performing loans over the last few years. However, not all debtors succeed—it depends on each debtor’s business condition.”

Approximately 25–30% of debtors remain non-performing despite restructuring interventions. Post-hoc analysis of these cases identified three primary failure modes: permanent business deterioration (particularly in construction, where project failures were not recoverable through schedule adjustment); lack of cooperative intent (debtors who became unresponsive or failed to honor new schedules); and fundamental capacity impairment in MSME debtors, where purchasing power recovery was insufficient to restore viable cash flows. PB3 articulated the temporal limitation: “Restructuring helps suppress NPL, but its effects are more in the medium term. If the debtor’s business does not truly recover, risk remains.” This finding is consistent with [Miosido and Siswani \(2024\)](#) and [Erna and Hidayat \(2023\)](#) on the selectivity of successful restructuring.

The estimated NPL Net (after CKPN provisioning at 50% of non-performing balances) remained below 0.90% throughout the study period, declining from 0.41% (2017–2018) to 0.38% (2023). The 2020 peak NPL Net of 0.87% remained well below regulatory concern thresholds, confirming that provisioning effectively buffered the shock’s impact on the bank’s net risk exposure. This resilience is consistent with [Siagian \(2024\)](#)’s finding that Indonesian banks maintained NPL stability post-restructuring through adequate CKPN and capital adequacy.

4.6 SWOT-Based Strategic Framework for NPL Management Optimization

The synthesis of organizational and environmental analysis through the SWOT methodology generates an actionable strategic matrix for NPL management enhancement. Internally, the branch possesses significant strengths: an established 5C-based credit origination discipline, operational experience with 3R restructuring, structured procedural frameworks, and quality debtor relationships that facilitate coop-

erative restructuring interactions. Weaknesses center on three constraints: uneven analyst competency, suboptimal monitoring systems lacking EWS capability, and HR capacity limitations in the credit rescue unit.

Externally, the post-pandemic economic recovery trajectory and continued viability of a significant proportion of the debtor portfolio create genuine restructuring opportunities. The OJK's regulatory support for restructuring programs provides institutional legitimacy for proactive intervention. The primary threats—commodity price volatility (particularly copper and gold), construction project delay risk, MSME purchasing power sensitivity, and structural economic concentration on mining—are systemic rather than idiosyncratic and cannot be eliminated by bank strategy; they can only be managed through preparedness.

The strategic matrix generates four quadrant-specific priorities: The SO (Strength-Opportunity) strategy prioritizes proactive restructuring deployment for debtors with viable business prospects and a cooperative character, leveraging established relationships to maximize recovery rates. The ST (Strength-Threat) strategy strengthens sector-specific risk analysis for high-risk sectors by applying more conservative origination standards and contingency monitoring for construction and mining debtors. The WO (Weakness-Opportunity) strategy directs capacity investment toward HR development and monitoring technology enhancement to efficiently capture recovery opportunities. The WT (Weakness-Threat) strategy implements selective restructuring criteria—excluding debtors without viable business prospects—and strengthens the sensitivity analysis for debtor portfolios exposed to commodity and project risks.

5. Conclusions

This study found that NPL dynamics at Bank Papua Timika Branch are strongly influenced by external economic shocks, particularly the COVID-19 pandemic, which significantly increased credit risk across sectors. Capacity impairment and adverse economic conditions emerged as the primary determinants of NPL, while debtor character, especially cooperative behavior and communication transparency, played a crucial role in determining restructuring success. The findings demonstrate that sector-differentiated restructuring strategies are effective in reducing NPL, as evidenced by the decline in NPL from 1.75% in 2020 to 0.77% in 2023. Restructuring effectiveness was enhanced through the alignment of interventions with sector-specific characteristics, including project-based schedules in construction, cash-flow-based arrangements for MSMEs, and commodity-sensitive approaches in the mining sector. However, the effectiveness of NPL management remains constrained by organizational limitations, including insufficient human resource capacity, uneven analyst competencies, and monitoring systems that lack early warning capabilities. Strengthening these organizational elements is therefore essential to improving the long-term effectiveness and sustainability of credit restructuring and NPL management at Bank Papua Timika Branch.

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Author Contributions

SASP contributed to conceptualization, data collection, interviews, data analysis, manuscript drafting, and final manuscript approval. TPU contributed to literature review, theoretical framework development, methodology supervision, manuscript revision, and final manuscript approval. ERM contributed to research design, data validation, supervision, manuscript revision, and final manuscript approval.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this study. This research was conducted independently, and no financial or personal relationships influenced the results or interpretation of the findings.

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