RESEARCH ON THE COST OF FINANCE LEASED ASSETS ACCORDING TO VIETNAMESE ACCOUNTING STANDARD NO. 06 (VAS 06) AND THE POLICY IMPACTS ON INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS 16) - A CASE STUDY OF THE MINING INDUSTRY

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Abstract: ***This research provides a comprehensive and multifaceted analysis of the initial measurement of finance lease assets under Vietnamese Accounting Standard 06 (VAS 06). The primary mechanism involves selecting the lower value between the Present Value of Minimum Lease Payments (PVMMP) and the Fair Value (FV). This paper argues that such a mechanism serves as a critical bridge between historical cost and the prudence principle. By focusing on the mining sector, characterized by high-value, specialized equipment, extreme operating conditions, and significant environmental risks, the study highlights the practical challenges of asset valuation. Furthermore, the article explores the fundamental shift toward IFRS 16, which removes the FV ceiling, and offers strategic recommendations for Vietnamese mining firms to manage financial volatility during the IFRS adoption roadmap.***

• Keywords: *lease accounting; VAS 06; IFRS 16 adoption; financial reporting impact.*

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1. Introduction and problem statement

In the current era of global financial integration and the rapid digital transformation of accounting practices, the transparency and comparability of financial reports have become non-negotiable requirements for sustainable corporate growth and investor confidence. For Vietnamese enterprises, especially those operating in capital-intensive industries such as coal, stone, and mineral extraction, finance leasing has emerged as a strategic financing channel. This mechanism allows companies to acquire high-capacity, modern machinery, ranging from hydraulic excavators to complex mineral processing lines, without the immediate burden of massive cash outflows, which is essential for maintaining liquidity and operational agility in a volatile market.

However, the accounting treatment of these leases is governed by the complex Substance Over Form (SOF) principle. While a lease may legally appear as a simple rental agreement, its economic reality in a finance lease is a credit-based purchase of a long-term productive asset. This necessitates the recognition of both an asset and a liability on the balance sheet. The core challenge lies in the initial measurement: Vietnamese Accounting Standard 06 (VAS 06) requires the asset to be recorded at the "lower of two values"-the Present Value of Minimum Lease Payments (PVMMP) or the Fair Value (FV). This "Min rule" is not just a technical formula; it represents a deep-seated accounting philosophy that seeks to balance cost-based recognition with market-based risk control.

For the mining industry, where assets are often multi-billion VND investments, understanding this mechanism is crucial. Any error in valuation could lead to significant distortions in financial ratios, potentially impacting credit ratings and the ability to raise capital. This paper delves into why this mechanism exists and how its removal under

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IFRS 16 will revolutionize the financial landscape for Vietnamese miners.

2. Literature review and research methodology

2.1. Literature Review

The shift in lease accounting from a dual model (VAS 06/IAS 17) to a single model (IFRS 16) has been a global focal point for academic research. Scholars like Barone et al. (2014) argued that the capitalization of all leases significantly improves the predictive power of financial statements regarding future cash flows. In the context of extractive industries, Morales-Díaz and Zamora-Ramírez (2018) observed that firms with high-value specialized equipment experience the most profound impact on their leverage ratios, as previously hidden "off-balance sheet" obligations are brought into the light.

In Vietnam, contemporary research has primarily focused on the overall readiness for IFRS adoption. However, a specific gap exists regarding the mining sector, where environmental degradation and technical obsolescence happen at a much faster rate than in manufacturing. This paper fills that gap by linking the removal of the FV ceiling under IFRS 16 to the increased necessity for robust impairment testing (IAS 36).

2.2. Research Methodology

This study employs a Qualitative-Comparative research design combined with Simulated Case Study Analysis. First, we utilize the comparative method to analyze the philosophical divergence between the "Prudence-based" approach of VAS 06 and the "Commitment-based" approach of IFRS 16. Second, a deductive reasoning approach is applied to the mining sector's specific environmental risks to evaluate how these risks manifest in accounting entries. Finally, we built a multi-year financial simulation for a stone crushing system to provide concrete evidence of the impact on key financial indicators (EBITDA, ROA, and Debt-to-Equity).

3. Theoretical framework and VAS 06 provisions

3.1. The Principle of Substance Over Form and Lease Capitalization

SOF is the fundamental bedrock of modern lease accounting. It mandates that the economic substance of a transaction takes precedence over its legal shell. In a finance lease, the lessee effectively gains control over the asset's economic benefits and assumes almost all ownership risks, such as maintenance costs, technical obsolescence, and insurance. Therefore, capitalizing the lease, recognizing it as an asset, is essential to provide a "true and fair view" of the firm's resources. Without capitalization, firms could engage in "off-balance sheet" financing, which hides the true level of debt and artificially inflates financial performance metrics.

3.2. Cost Determination: The Interplay between PVMMP and Fair Value

Paragraph 07 of VAS 06 stipulates that the initial cost of a finance lease asset is the lower of:

- PVMMP (Present Value of Minimum Lease Payments): This represents the discounted value of all future lease obligations, effectively the "historical cost" of the financial commitment.

- Fair Value (FV): This is the amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's length transaction. It acts as a market benchmark at the start of the lease.

3.3. Technical Nuances of Discount Rates

The calculation of PVMMP is highly sensitive to the discount rate used. Under VAS 06, the lessee should use the implicit interest rate of the lease if it is practicable to determine. However, this is often a "black box" for lessees because it requires knowing the lessor's residual value expectations. In the absence of an implicit rate, the lessee must apply the incremental borrowing rate. In the mining sector, where firms often have high risk profiles, this rate can be significantly higher than market averages, leading to lower PVMMP values and potential mismatches with asset Fair Values.

3.4. The Prudence Concept and Loss Recognition

The "Min" rule ensures that an asset is never recorded above its market utility. If the PVMMP (the discounted total cost of financing) is higher than the FV (the market price), the enterprise is essentially paying more for the financing than

the asset is worth as a physical object. Under the Prudence Principle, this "overpayment" cannot be capitalized. Instead, the enterprise must record the asset at FV and recognize the difference (PVMMP - FV) as an immediate financial expense. This prevents the "inflation" of assets on the balance sheet and provides a conservative view of the entity's net worth.

4. Sector-specific analysis: the mining industry

4.1. High-Value Assets and Sensitivity to Interest Rates

Mining machinery, such as large-scale conveyor systems or tunnel boring machines, involves massive capital expenditures. Due to these high nominal values, even a minor 0.25% shift in the discount rate used to calculate PVMMP can result in a valuation difference of hundreds of millions of VND. This makes the selection of the discount rate a high-stakes decision for mining accountants, as it directly affects the reported value of fixed assets and long-term liabilities.

4.2. Volatility of Fair Value and the "Landed Cost" Challenge

Mining equipment values are inextricably tied to global commodity prices. Furthermore, mines are often located in remote, inaccessible areas. This leads to extremely high "landed costs"-the cost of transportation, specialized assembly, and heavy-duty installation in difficult terrain. While these costs increase the PVMMP, they often do not increase the "Fair Value" of the machine in a standard market transaction. Consequently, mining firms frequently encounter the "PVMMP > FV" scenario, forcing a significant "day-one hit" to their income statement.

4.3. Detailed Numerical Case Study: Stone Crushing System

Let us consider a realistic scenario for a Vietnamese mining enterprise leasing a German-engineered crushing system:

- Fair Value (FV) at inception: 50,000,000,000 VND.

- Lease Term: 5 years with annual payments of 14,000,000,000 VND.

- Incremental Borrowing Rate: 12% per annum.

Calculation under VAS 06:

- PVMMP: approx 50.47$ billion VND.

- Comparison: PVMMP (50.47 billion) > FV (50 billion).

- Accounting Treatment: Cost of Asset is recorded at 50 billion VND. A loss of 470 million VND is recognized immediately in Year 1.

- Strategic Implication: The firm must manage its profit expectations in Year 1 to accommodate this write-down, ensuring that its ROA (Return on Assets) is based on a realistic market-based denominator.

4.4. Qualitative and Quantitative Impact on Financial Indicators

The choice between VAS 06 and IFRS 16 dictates the health of financial ratios. Under VAS 06, the capping of assets at FV keeps the Debt-to-Equity ratio lower than it would be under IFRS 16. However, it also leads to higher reported profitability in subsequent years due to lower depreciation charges. Conversely, IFRS 16 will see an increase in EBITDA because lease payments are moved from "Operating Expenses" to "Depreciation and Interest." For a mining firm, this change can make the company look more "operationally efficient" to investors, even if its total debt has increased.

Table 1: Comparative Impact Analysis on Mining Ratios

Ratio	VAS 06 Impact	IFRS 16 Impact	Strategic Consequence
D/E Ratio	Lower (due to FV cap)	Higher (Full commitment recognized)	Risk of breaching loan covenants.
EBITDA	Lower (Lease as OpEx)	Higher (Lease as Depr/Int)	Better "Interest Coverage" perception.
ROA	Higher (Smaller Asset base)	Lower (Larger Asset base)	Need for better asset utilization.

5. The transition to ifrs 16: philosophical shifts

5.1. From Front-End Control to Back-End Impairment

The adoption of IFRS 16 represents a paradigm shift. It removes the "Min rule" and the FV ceiling. Instead, the Right-of-Use (ROU) Asset is measured based on the lease liability. This moves the focus from "Initial Prudence" to "Subsequent Monitoring." Firms are allowed to capitalize the full cost of financing, but they must perform

rigorous IAS 36 (Impairment of Assets) tests annually.

5.2. The Complexity of "Right-of-Use" in Mining Licenses

A further complication in mining is the synergy between leased equipment and mining licenses. Under IFRS 16, the ROU asset must be evaluated as part of a Cash Generating Unit. If the mine's mineral reserves are depleted faster than expected, the leased

Equipment- even if physically functional, may need to be impaired. This requires a level of integration between technical geological data and accounting valuation that most Vietnamese firms have yet to develop.

6. Policy implications and strategic recommendations

6.1. Managing the "Expense Shock" and Renegotiating Covenants

The transition to IFRS 16 after 2025 will be a significant financial event for many mining corporations. The sudden capitalization of all leases will increase reported debt. Mining firms must proactively engage with their creditors to redefine "Debt" in their loan covenants to account for these accounting changes.

6.2. Recommendations for Regulatory Agencies (Ministry of Finance)

The Ministry should provide a specific framework for assessing the "recoverable amount" of specialized mining equipment. Since there is often no active secondary market for used specialized mucking machines, specific "value-in-use" models must be standardized to prevent inconsistent reporting across the industry. Furthermore, tax laws must be harmonized to clarify the deductibility of impairment losses.

6.3. Recommendations for Mining Enterprises

Firms must establish internal processes to determine their Incremental Borrowing Rate based on their specific risk profile. Additionally, the accounting department must receive real-time data from mine site engineers regarding machine hours and degradation. This technical data is the only way to perform the impairment assessments required by international standards accurately. Investing in automated lease management software is no longer optional; it is a prerequisite for a successful transition.

Conclusion

The "Min (PVMMP, FV)" mechanism of VAS 06 has provided a conservative and prudent foundation for the Vietnamese accounting system for over two decades. It has effectively prevented asset inflation and protected stakeholders from over-leveraged balance sheets. However, as the Vietnamese mining sector seeks to integrate with global capital markets and attract foreign direct investment, the transition to IFRS 16 is an inevitable and necessary step. This shift requires a move from rigid, "ceiling-based" rules to a more dynamic, "judgment-based" approach centered on impairment. Success in this transition will depend on the ability of mining firms to bridge the gap between financial reporting and technical mining reality. By accurately valuing their assets and managing the resulting financial transparency, Vietnamese mining enterprises can position themselves as robust, reliable participants in the global economy.

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