COMPARATIVE CORPORATE TAX BURDENS: A STANDARDIZED SIMULATION

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Abstract

This study aims to compare the corporate tax burdens of Indonesia, Vietnam, and Brazil by evaluating differences in effective tax rates (ETR) and post-tax shareholder returns. Using a standardized firm-level simulation with identical financial parameters across all jurisdictions, the analysis incorporates two tax treatments: creditable and non-creditable indirect taxes. The results indicate that under the creditable tax scenario, Vietnam records the lowest ETR (24%) and the highest net cash to equity (60.8 million), followed by Indonesia (29.8%; 56.16 million), while Brazil shows the highest tax burden (34%; 52.8 million), with all jurisdictions experiencing substantial increases in ETR when indirect taxes become non-creditable. The study concludes that Vietnam provides the most tax-efficient environment and that the creditability of indirect taxes significantly influences cross-country differences in effective corporate tax burdens.

Keywords:
Corporate Tax, Effective Tax Rate (ETR), Dividend Withholding, VAT/ICMS, International Tax Simulation

1. Introduction

Tax competitiveness has become a central factor in multinational investment decisions. Corporations often evaluate not only statutory corporate income tax (CIT) rates but also the total effective tax burden after considering dividend withholding taxes (WHT) and indirect consumption taxes. However, most comparative studies focus only on headline rates, neglecting differences in tax bases and creditability of consumption taxes. This study aims to fill this gap by applying a standardized firm simulation to assess effective tax rates (ETR) across Indonesia, Vietnam, and Brazil—three major emerging economies with distinct tax regimes.

Indonesia maintains a dual-layer system, combining a 22% corporate income tax and 11% value-added tax (VAT), with dividends subject to a 10% withholding tax. Vietnam applies a more moderate 20% CIT, a 10% VAT, and only a 5% dividend withholding tax. Brazil, meanwhile, imposes the heaviest burden with a 34% combined corporate tax (IRPJ + CSLL) and a complex multi-layer ICMS system averaging 12%.

Understanding these differences is essential for firms like Beanora Coffee Company*, a hypothetical multinational used in this simulation, to evaluate net after-tax profitability across jurisdictions.*

This research contributes to international tax literature by offering a transparent and replicable model of comparative tax burdens. Unlike traditional EATR or EMTR approaches, which depend on marginal investment assumptions, this study uses a standardized firm with fixed financial parameters to provide a more realistic comparison.

Although existing studies examine statutory corporate tax rates or effective tax rates, only a limited number incorporate corporate income tax (CIT), dividend withholding tax (WHT), and the creditability of indirect taxes simultaneously within a single comparative model. Past research also rarely uses a standardized firm with identical financial parameters, causing inconsistencies in country comparisons. This gap highlights the need for a unified simulation that integrates all tax components to generate realistic cross-country tax burden comparisons.

2. Literature Review and Hypotheses Development

2.1 Corporate Income Tax and Effective Tax Rate (ETR)

Corporate Income Tax (CIT) represents the main component of a firm's tax burden, directly affecting after-tax profitability and investment decisions. While statutory CIT rates are easily observable, they do not always reflect the true tax burden. Therefore, scholars often use the Effective Tax Rate (ETR) to measure how much income is actually remitted to the government after accounting for all deductions and credits (Kirchler, 2007). Differences in tax bases, allowable expenses, and fiscal incentives across jurisdictions cause variation in ETR even among countries with similar statutory rates. Studies such as Devereux & Griffith (2003) and Cobham & Janský (2019) highlight that ETRs better capture real tax competitiveness and policy efficiency.

2.2 Dividend Withholding Tax and Cash Repatriation

Dividend Withholding Tax (WHT) determines how much profit remains available to shareholders after distribution. High WHT rates discourage cross-border profit repatriation and influence global capital allocation (Desai & Dharmapala, 2009). In Indonesia, a 10% WHT applies to cross-border dividends, while Vietnam levies only 5%. Brazil currently exempts dividends from taxation, enhancing shareholder returns but shifting the fiscal burden toward the corporate level. The variation in WHT rates therefore contributes significantly to differences in net cash to equity across jurisdictions.

2.3 Indirect Taxes: VAT, ICMS, and Creditability

Indirect taxes, such as Value Added Tax (VAT) and Brazil's ICMS, can significantly alter corporate cost structures. The creditability of these taxes—whether they can be offset against output tax—affects whether consumption taxes become a deductible cost or a neutral pass-through (Ebrill et al., 2001). When VAT is creditable (as in Indonesia and Vietnam), it does not increase the total corporate burden. However, when taxes are non-creditable (as in some ICMS regimes in Brazil), they act as turnover taxes, increasing the Effective Tax Rate (ETR). This distinction is crucial in standardized simulations aiming to compare true tax burdens.

2.4 Conceptual Framework and Hypotheses Development

Based on the reviewed literature, this study assumes that countries with lower combined tax rates (CIT + WHT + indirect taxes) will produce higher net cash to equity and lower ETR. Conversely, jurisdictions with non-creditable indirect taxes or higher corporate rates will exhibit heavier overall tax burdens.

Hypotheses:

- *H1: Vietnam exhibits the lowest effective tax rate (ETR) among the three jurisdictions.*
- *H2: Brazil exhibits the highest effective tax rate (ETR) due to non-creditable indirect taxes and high CIT.*
- *H3: The ranking of jurisdictions by net cash to equity is Vietnam (highest), Indonesia (moderate), and Brazil (lowest).*

This study contributes to the literature by integrating three major tax instruments—CIT, WHT, and indirect tax creditability—into a unified simulation framework. Unlike previous research that often analyzes these elements separately, this model provides a comprehensive representation of real corporate tax burdens. The study also extends prior work by using a standardized firm, ensuring consistent comparability across jurisdictions, which enhances both theoretical insights and policy relevance.

3. Research Methodology

3.1 Research Design

This study employs a standardized firm-level simulation approach to compare the corporate tax burdens across Indonesia, Vietnam, and Brazil. The standardized simulation model allows for an "apples-to-apples" comparison by ensuring identical financial parameters—such as revenue, operating costs, and profit margins—across all jurisdictions. This method isolates the tax effects of different statutory systems while controlling for business scale, industry, and accounting policies.

Two tax treatments are modeled:

1. *Scenario B (Creditable Consumption Taxes) — where VAT/PPN/ICMS is fully creditable and thus excluded from the tax burden.*
2. *Scenario A (Non-creditable Consumption Taxes) — where VAT/ICMS is treated as a cost component (turnover tax).*

The firm is assumed to distribute 100% of after-tax profit as dividends to equity holders. Cross-border or treaty-based reliefs, special incentives, and compliance costs are not considered to maintain comparability and simplicity.

3.2 Simulation Parameters

The standardized firm simulation assumes the following baseline financials:

Component	***Assumed Value***	***Notes***
Revenue (R)	*100,000,000*	*Standardized across jurisdictions*
Operating Costs (C)	*20,000,000*	*Identical cost structure*
EBIT (R−C)	*80,000,000*	*Earnings before tax*

Dividend Payout	*100%*	*All post-tax profits distributed*
Currency	*Local (converted to base unit)*	*No FX adjustment*

This research employs a quantitative, comparative, simulation-based approach using a standardized firm model. Since the study does not involve respondents, population, or sampling procedures, no behavioral or survey data are included. The analysis relies entirely on deterministic tax formulas using fixed financial assumptions (revenue, operating costs, EBIT, tax rates). Behavioral responses, treaty benefits, foreign tax credits, and tax incentives are excluded to preserve cross-country comparability.

3.3 Tax Parameters per Jurisdiction

Jurisdiction	***CIT (%)***	***WHT Dividends (%)***	***VAT/ICMS (%)***	***Creditable***	***Notes***
Indonesia	*22*	*10*	*11*	*Yes*	*VAT creditable under standard system*
Vietnam	*20*	*5*	*10*	*Yes*	*VAT creditable for registered taxpayers*
Brazil	*34*	*0*	*12*	*No*	*ICMS partially non-creditable (turnover element)*

3.4 Calculation Formula (Editable Version)

Corporate Income Tax (CIT):
CIT = EBIT × CIT rate

After-Tax Profit (TI):
After-Tax Profit = EBIT − CIT

Withholding Tax (WHT):
WHT = After-Tax Profit × WHT rate

Consumption Tax (if applicable):
Consumption Tax = Revenue × VAT or ICMS rate

Total Tax Burden:

- *Scenario B (Creditable) → Total Tax = CIT + WHT*
- *Scenario A (Non-creditable) → Total Tax = CIT + WHT + Consumption Tax*

Effective Tax Rate (ETR):
ETR = Total Tax ÷ EBIT

Net Cash to Equity:
Net Cash to Equity = EBIT − Total Tax

4. Result

4.1 Computation Results under Standardized Firm Simulation

Based on the standardized assumptions (Revenue = 100,000,000; EBIT = 80,000,000), the following results summarize the estimated corporate tax burdens for Indonesia, Vietnam, and Brazil. The simulation covers two scenarios:

- *Scenario B (Creditable Consumption Taxes): VAT/PPN/ICMS excluded from the tax burden.*
- *Scenario A (Non-creditable Consumption Taxes): VAT/ICMS treated as a turnover tax, increasing total cost.*

4.2 Results – Scenario B (Creditable Consumption Taxes)

Jurisdiction	***CIT (Rp)***	***WHT (Rp)***	***Total Tax (Rp)***	***ETR (% of EBIT)***	***Net Cash to Equity (Rp)***
Indonesia	*17,600,000*	*6,240,000*	*23,840,000*	*29.8%*	*56,160,000*
Vietnam	*16,000,000*	*3,200,000*	*19,200,000*	*24.0%*	*60,800,000*
Brazil	*27,200,000*	*0*	*27,200,000*	*34.0%*	*52,800,000*

Notes:

- *CIT = EBIT × CIT rate*
- *WHT = (EBIT − CIT) × WHT rate*
- *Total Tax = CIT + WHT*
- *ETR = Total Tax ÷ EBIT*
- *Net Cash = EBIT − Total Tax*

4.3 Results – Scenario A (Non-creditable Consumption Taxes)

Jurisdiction	***Consumption Tax (Rp)***	***CIT (Rp)***	***WHT (Rp)***	***Total Tax (Rp)***	***ETR (% of EBIT)***	***Net Cash to Equity (Rp)***
Indonesia	*11,000,000*	*17,600,000*	*6,240,000*	*34,840,000*	*43.6%*	*45,160,000*
Vietnam	*10,000,000*	*16,000,000*	*3,200,000*	*29,200,000*	*36.5%*	*50,800,000*
Brazil	*12,000,000*	*27,200,000*	*0*	*39,200,000*	*49.0%*	*40,800,000*

4.4 Interpretation of Findings

Under the creditable tax scenario, Vietnam demonstrates the lowest effective tax rate (24%) and the highest net cash to equity, indicating superior tax efficiency. Indonesia ranks second, while Brazil bears the heaviest tax burden due to its high corporate rate and lack of dividend tax neutrality.

When non-creditable consumption taxes are considered, all jurisdictions experience a significant rise in total burden. Brazil's ETR climbs to nearly 49%, while Indonesia and Vietnam increase to 43.6% and 36.5%, respectively. This sensitivity analysis reveals that the creditability of indirect taxes is a crucial determinant of real corporate tax competitiveness.

Overall, Vietnam's combination of moderate corporate taxation and low dividend withholding provides the most favorable environment for after-tax cash returns, whereas Brazil's turnover-style taxation significantly reduces net profitability.

The findings directly support H1, as Vietnam consistently demonstrates the lowest ETR across both tax scenarios. H2 is confirmed because Brazil shows the highest ETR due to its high CIT rate and non-creditable ICMS. Furthermore, H3 is supported through the ranking of net cash to equity (Vietnam > Indonesia > Brazil). These results reinforce previous literature noting that tax bases and indirect tax mechanisms significantly influence real corporate tax burdens.

5. Discussions and Conclusions

The results of this standardized firm-level simulation provide clear evidence of significant variations in corporate tax burdens among Indonesia, Vietnam, and Brazil. These findings are consistent with the hypotheses proposed earlier and align with prior research emphasizing the role of effective tax rates in shaping international tax competitiveness (Devereux & Griffith, 2003; Cobham & Janský, 2019).

Vietnam emerges as the most tax-efficient jurisdiction, exhibiting the lowest ETR and the highest net cash to equity. This result reflects Vietnam's moderate corporate income tax (20%) and relatively low dividend withholding tax (5%), which together create a more favorable environment for reinvestment and repatriation of profits

Indonesia occupies a middle position, with a combined ETR slightly higher than Vietnam's due to a higher CIT (22%) and a 10% dividend WHT. However, its VAT system—being fully creditable—prevents further escalation of the total tax burden. This indicates that Indonesia's tax structure remains regionally competitive, though dividend taxation could be reconsidered to attract additional foreign investment.

Brazil, on the other hand, demonstrates the heaviest overall tax burden across both scenarios. The combined CIT (34%) and non-creditable ICMS result in the highest ETR (49% under Scenario A). These results confirm prior observations that Brazil's multi-layered tax system imposes excessive turnover-style taxes that distort pricing and profitability (Auerbach & Gordon, 2002).

The analysis highlights the critical role of indirect tax creditability in determining the real tax burden. When VAT or ICMS is non-creditable, the effective burden increases drastically, diminishing net returns and discouraging foreign direct investment (FDI). This finding supports international best practices advocating for transparent, creditable VAT systems as a means of fostering cross-border neutrality.

*From a managerial perspective, these results suggest that multinational enterprises (MNEs) should consider both statutory and effective tax burden**s** when making location or dividend distribution decisions. A jurisdiction with a lower statutory rate may still yield a higher total burden if consumption taxes are not creditable.*

Conclusion

The study concludes that Vietnam provides the most favorable tax environment, with an ETR of 24% and the highest net cash to equity (60.8 million). Indonesia ranks second with an ETR of 29.8%, while Brazil shows

the highest burden at 34%. When indirect taxes become non-creditable, the tax burdens rise substantially in all jurisdictions, highlighting the crucial role of indirect tax structures in shaping real investment competitiveness. The standardized simulation demonstrates a transparent and replicable method for analyzing comparative tax burdens.

6. Limitations of Research

This study has several limitations that should be acknowledged to provide context for interpretation and to guide future research. First, the simulation model used is static and simplified, representing a single standardized firm structure. It does not capture behavioral responses by corporations, such as profit shifting, reinvestment, or financing adjustments that could occur in real-world settings.

Second, the study excludes special tax regimes, incentives, and sectoral variations that might alter actual corporate tax burdens. For instance, tax holidays, accelerated depreciation, and thin capitalization rules were intentionally omitted to maintain comparability across countries. Third, the analysis simplifies consumption tax systems by categorizing them only as creditable or non-creditable. In practice, VAT and ICMS systems involve complex refund mechanisms, sectoral exemptions, and cascading effects that vary by industry and transaction type.

Fourth, cross-border tax interactions—such as double tax treaties, foreign tax credits, or the OECD Pillar Two framework—were not included. These elements could influence the effective tax burden for multinational enterprises in real operations. Lastly, macroeconomic factors such as inflation, currency fluctuation, and policy uncertainty were not considered in this simulation. These variables could affect investment attractiveness and tax competitiveness over time.

Despite these limitations, the model provides a transparent and replicable framework for comparing statutory and effective tax burdens across jurisdictions. Future studies are encouraged to extend this model by incorporating dynamic behavioral assumptions, industry-specific data, and multi-country treaty interactions

This study does not incorporate depreciation rules, industry-specific incentives, tax holidays, foreign tax credits, thin capitalization rules, cross-border treaty benefits, or the OECD Pillar Two framework. These components can significantly influence the real corporate tax burden. Future studies should integrate these dynamic elements and consider industry-specific VAT/ICMS structures, behavioral responses, and multinational tax interactions to produce a more comprehensive comparison.

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