



NADI INSTITUTE

**AFFILIATION:**

<sup>1</sup> Ministry of Finance, Republic of Indonesia

**\*CORRESPONDENCE:**

yasinta.widya@kemenkeu.go.id

**ARTICLE HISTORY****Received:**

2 March 2026

**Reviewed:**

10 March 2026

**Revised:**

26 March 2026

**Accepted:**

31 March 2026

**Article Type:** Research

# The Dynamics of Transfer Pricing Methods in Commodity Trading Hubs: Reconciling Transaction Cost Economics with Ex-Ante Compliance under the PMK 172/2023 Regime

Yasinta Widya Paramitha<sup>1</sup>, Damar Nugroho<sup>1</sup>

**Abstract**

The centralization of global commodity procurement and sales through the establishment of trading hubs by Multinational Enterprises (MNEs) has sparked intense debate within the international taxation landscape. Employing a conceptual framework that integrates Transaction Cost Economics (TCE), Comparability Theory, and Institutional Voids, this study investigates the structural frictions in applying the arm's length principle to highly integrated trading hub entities. The analysis focuses on the dissonance between the a priori compliance framework and the reality of tax enforcement in Indonesia following the enactment of the Minister of Finance Regulation No. 172 of 2023 (PMK 172/2023). Through a qualitative-doxtrinal methodology and a typological case study of the coal and palm oil value chains, this study finds that the simplistic approach of tax authorities degrading full-fledged trading hubs into mere routine service providers leads to the failure of the cost-plus method. The key findings reveal a procedural asymmetry where the mandate to prepare transfer pricing documentation using an ex-ante approach is frequently nullified by auditors adopting an ex-post hindsight bias, resulting in a drastic increase in transaction costs via compliance and litigation burdens. In response, this study proposes a comprehensive functional delineation framework based on DEMPE analysis to justify the use of the Transactional Net Margin Method (TNMM) or Profit Split Method (PSM), while formulating a "Rationality Audit Trail" mechanism and proactive utilization of Advance Pricing Agreements (APA) to restore legal certainty in cross-border commodity taxation.

*Keywords:* Transfer Pricing, Trading Hub, Transaction Cost Economics, PMK 172/2023, Ex-Ante Approach, Commodity Disputes, OECD BEPS

## Introduction

The contemporary global commodity trade architecture is characterized by a massive shift toward the centralization of logistics and financial management controlled by

Multinational Enterprises (MNEs). To pursue operational efficiency and supply chain optimization, MNEs establish strategic trading or procurement hubs in jurisdictions with robust business environments and favorable fiscal regimes, such as Singapore, Switzerland, or Hong Kong (Tcherveniachki, 2022). These centralized entities act not merely as physical commodity conduits but play a crucial role as intellectual and financial command centers; they manage strategic negotiations, absorb global price volatility risks through hedging mechanisms, execute pre-financing for extraction operations, and orchestrate global logistics portfolios (World Bank, 2017).

While the creation of trading hubs offers rational business advantages, their presence places the international tax ecosystem under severe pressure. Tax authorities, particularly in resource-rich developing nations (source countries), view the existence of trading hubs through a lens of institutional suspicion. There is a legitimate concern that the accumulation of marginal profits within the hub jurisdiction indicates aggressive tax avoidance through misinvoicing or transfer pricing manipulation, leading to Base Erosion and Profit Shifting (BEPS) phenomena. In response to this crisis of trust, the OECD's BEPS Action 8-10 guidelines have revised global standards with a fundamental mandate: aligning transfer pricing outcomes with substantial value creation (OECD, 2015). This initiative introduces the substance over form doctrine, demanding factual identification of which entities within the MNE network truly bear the real economic risks and deploy intellectual assets (De Broe, 2008).

As a major exporter of coal and Crude Palm Oil (CPO), Indonesia is at the forefront of this debate. The government responded to global dynamics by massively restructuring its tax landscape, enacting the Minister of Finance Regulation No. 172 of 2023 (PMK 172/2023) at the end of 2023 (Irawan & Gumilang, 2025). `` PMK 172/2023 comprehensively revokes and consolidates three crucial previous regulations (PMK 213/2016, PMK 49/2019, and PMK 22/2020) to enforce justice and legal certainty aligned with the BEPS Inclusive Framework standards.

However, this bold regulatory transition also opens Pandora's box of temporal asymmetry in tax compliance enforcement. Under Article 17 paragraph (1), PMK 172/2023 explicitly reinforces the obligation to apply an ex-ante approach; requiring the preparation of transfer pricing documentation based on data analysis and rational estimations factually available "before or at the time" the affiliated transaction is executed (MUC Consulting, 2023). Yet, empirically, the litigation arena proves a structural disconnection, where auditors in reality still exploit an ex-post approach using actual year-end profit realizations influenced by unpredictable commodity market fluctuations to annul the validity of the taxpayer's ex-ante estimations (Irawan & Gumilang, 2024). This hindsight bias creates persistent uncertainty that degrades the essence of investment security.

Utilizing Transaction Cost Economics (TCE) as an analytical framework, this study seeks to fill the void in the literature by identifying the roots of the doctrinal collapse in transfer pricing testing for commodity trading hubs. This research aims to unravel the methodological deadlock in selecting transfer pricing methods comparing the conceptual validity among the Comparable Uncontrolled Price (CUP) model, Transactional Net Margin

Method (TNMM), and Profit Split Method (PSM) under the shadow of the ex-ante versus ex-post asymmetry friction.

## **Literature Review and Theoretical Framework**

### **2.1. Transaction Cost Economics and Trading Hub Phenomenology**

The analytical approach to understanding MNE architecture is inseparable from Transaction Cost Economics (TCE). TCE explains that firms are rational entities designing operational hierarchies to control transaction costs arising from market uncertainty, asset specificity, and information asymmetry. In high-value commodity trading, sporadic supplier searches, unstructured daily price negotiations, and information dissipation exponentially inflate costs. Therefore, business rationality instructs the aggregation of these functions into a centralized entity a trading hub.

TCE possesses a linear coherence in explaining the transfer pricing polemic. When tax authorities regressively deny the value-added of a trading hub and force price corrections based on artificial comparable analyses, they essentially impose "artificial transaction costs" on MNEs in the form of redundant compliance costs, inflated documentation obligations, and prolonged litigation burdens (Brem & Markham, 2025). If the costs spent to prove compliance and litigate in court exceed the tax protection gained, theoretically correct transfer pricing methods (like CUP) can be deemed to have failed in economic function due to inefficiency.

### **2.2. Substance Deconstruction, DEMPE Delineation, and Comparability Bias**

The OECD guidelines consistently place the arm's length principle upon the foundation of Comparability Theory the principle requiring the benchmarking of affiliated transaction attributes with independent third parties under equivalent conditions. However, for industries relying on trading hubs, achieving perfect comparability is an academic hallucination colliding with empirical reality. MNE architectures often fall into Institutional Voids where operating jurisdictions (especially in developing countries) lack public databases recording local commodity inter-company transactions transparently (Brem & Markham, 2025). Without domestic benchmarks, comparisons are shifted abroad, inviting cross-jurisdictional manipulation suspicions.

The post-BEPS state-of-the-art literature emphasizes the paradigm of proving economic substance. The OECD mandates the implementation of the Development, Enhancement, Maintenance, Protection, and Exploitation (DEMPE) analysis to verify entities (OECD, 2022).

Tcherveniachki (2022) significantly contributed to the literature by breaking the classic dogma of tax authorities who often force a "low-value procurement entity" label onto all sourcing structures. He precisely classified structures into three functional entities: purchasing agents, commission agents, and at the top, the full-fledged trader—a sovereign trading hub entity executing purchases and sales in its own name and risk, dampening exchange rate volatility shocks, and bearing operational pre-financing

burdens. Forcing low-level cost-plus remuneration on a full-fledged trader entity represents an extreme distortion of commercial reality.

## Methodology

This research operationalizes a qualitative analytical design with a framework of doctrinal inquiry and corporate regulatory phenomenology. The structural investigation is split into two main trajectories.

In the primary stage, the study conducts critical doctrinal analysis, including the linguistic, functional, and teleological investigation of the primary legal instruments: the text of PMK 172/2023, the OECD Transfer Pricing Guidelines (2022 edition), and the BEPS Action 8-10 strategic documents regarding risk allocation and profit splits.

The secondary trajectory adopts a phenomenological construction analysis through the development of a "Typological Case Study of Extraction and Trading." Rooted in the actual landscape of Southeast Asian trade, the case simulates the upstream-downstream integration of coal or palm oil MNEs extracting raw materials in Indonesia, subsequently releasing them to their central affiliate, a trading hub in Singapore (Astrina et al., 2022). This typological simulation model serves as a qualitative laboratory to critically evaluate the comparative reliability among CUP, TNMM, and PSM methods when facing market shocks, while simultaneously testing the resilience of the ex-ante compliance argument against the aggressive historical correction (ex-post hindsight bias) from tax authorities.

## Findings and Discussion

### 4.1. Methodological Bias Deconstruction in Commodity Ecosystems

Analyzing the functional placement of trading hubs in the commodity industry eliminates the validity of tax authorities' simplifying assumptions. Through the lens of BEPS guidelines, the allocation of commodity economic risks to a trading hub cannot be claimed merely through paper contracts. When an Indonesian coal mine or plantation releases its raw commodities to a Singapore hub, that hub must be tested through layers of DEMPE analysis. Research findings confirm that top-tier hubs holding full-fledged trader status possess absolute independence as they control futures contract portfolios, execute centralized hedging integration impossible for upstream entities, and absorb market volatility risks.

Consequently, rigid transfer pricing methods experience an epistemological collapse. The comparative analysis in Table 2 elaborates on the efficacy of these methods in the spectrum of centralized transactions

**Table 1: Comparative Analysis of Transfer Pricing Method Reliability for Integrated Trading Hubs**

<b>Pricing Method</b>	<b>Conceptual Validity (Comparability Principle)</b>	<b>Theoretical Friction (Transaction Cost &amp; Institutional Voids)</b>	<b>Operational Feasibility for Full-Fledged Trading Hubs</b>
<b>CUP</b> (Comparable Uncontrolled Price)	Presents the most authentic price representation. Supported by public indices for commodities (e.g., ICI for coal).	Absolute comparability fails. Internal transactions accommodate deferred payments and volume discounts not validated by spot market benchmarks.	<b>Low.</b> Highly vulnerable to corrective cancellation due to hindsight bias and institutional voids.
<b>TNMM</b> (Transactional Net Margin Method)	Highly pragmatic. Evaluates net operating margin equilibrium by absorbing minor functional differences among comparators.	High information asymmetry triggers debate over the tested party position and peer selection bias due to local database scarcity.	<b>High.</b> Has become the default instrument and defensive standard, especially if supported by DEMPE functional analysis.
<b>PSM</b> (Profit Split Method)	Adopts proportional value participation. Residual profit is extracted and divided based on real value creation parameters (e.g., pre-financing).	Demands total consolidated bookkeeping transparency. Prone to rejection by authorities in developing jurisdictions due to subjectivity.	<b>Theoretically Relevant.</b> Advocated post-BEPS for highly integrated structures involving exclusive intangibles, though compliance-heavy.
Net Margin Method)	absorbing minor functional differences among comparators.	party position and peer selection bias due to local database scarcity	especially if supported by DEMPE functional analysis

From the perspective of Transaction Cost Economics, maintaining the CUP argument for commodity hubs is a denial of MNE internal synergy phenomena, while applying low-cost net margin models reduces the dignity of an asset-rich trading hub. The TNMM evaluation model, intensified with precise risk variable identification, and the exploration of PSM schemes for extreme integration levels, serve as functional exits from the comparability trap.

#### **4.2. I Regulatory Asymmetry: MNEs' Ex-Ante Dissonance vs. Auditors' Ex-Post Aggression**

The most crucial part of the evolution of Indonesia's transfer pricing oversight falls under the architecture of PMK 172/2023. Article 17 Paragraph (1) of PMK 172/2023 revitalizes a fundamental dogma, requiring documentation to be based on data and information available "at the time of or before" the affiliated transaction is executed (ex-ante approach) (Minister of Finance of the Republic of Indonesia, 2023). `` This regulatory legitimacy aligns with the pro-business philosophy of the 2022 OECD guidelines, designed to protect MNEs from the pressure of hindsight bias.

A systemic paradox arises when dissecting field practices in tax audits. Recent literature confirms that tax authorities actually conduct oversight using a dominant ex-post lens (Irawan & Gumilang, 2024). In the typological model, when geopolitical fluctuations multiply global commodity prices at the end of the quarter, auditors exploit actual year-end outturn information unknown to the taxpayer when formulating the price initially—to declare the ex-ante pricing defective, imposing aggressive secondary fiscal corrections.

From a TCE perspective, this institutional inconsistency burdens business entities with a "Rationality Penalty Cost". Taxpayers who have burned significant economic resources to formulate valid ex-ante documentation see their compliance investment artificially vanish, forced to divert corporate capital into corrosive tax litigation cycles. The practice of hindsight kills voluntary compliance initiatives and fosters the global perception that rule enforcement in extractive jurisdictions is merely a power-based revenue collection mechanism ignoring value causality.

## **Conclusion and Policy Implications**

The reductionist dogma of tax authorities persistently labeling trading hubs as artificial entities without substantial risk profiles is a fatal denial of modern corporate value chain creation. Rejecting strategic pre-financing functions and commodity hedging roles forces the implementation of low-level cost-plus methods that distort economic laws. In the global comparability arena, the CUP method approach is no longer operationally realistic, leaving TNMM based on strict DEMPE attribution, and progressively PSM, as the closest proxies to fair price equilibrium for full-fledged trading hubs.

Secondly, the issuance of PMK 172/2023 leaves an acute structural vulnerability if the audit apparatus is not redirected to the rails of initial compliance rationality. The latent collision between the ex-ante preparation obligation and price corrections based on retrospective enlightenment (ex-post hindsight bias) generates a justice deficit that inflates the friction of MNE litigation costs.

As an elaboration of institutional solutions, this research formulates strategic policy implications:

1. Formulation of a "Rationality Audit Trail": MNE compliance authorities are required to record managerial audit trails in real-time—including minutes of market derivative price considerations and hedging contract engagements—exactly when the ex-ante price formulation is executed.
2. Delimitation of Extractive Correction Authority: It is recommended that the Directorate General of Taxes release secondary implementation guidelines strictly limiting ex-post testing, applicable solely to Hard-to-Value Intangibles (HTVI) or proven massive document fraud.
3. Aggressive Optimization of Bilateral Consensus Mechanisms: Taxpayers with massive commodity value exposure should preemptively utilize cross-border Advance Pricing Agreement (APA) mechanisms, recently restructured within PMK 172/2023, to lock compensation methods in cross-jurisdictional certainty.

## References

- Astrina, N., et al. (2022). Tax avoidance practices in multinational enterprises: The case of Adaro Energy. *Energies*, 11(5), 257.
- Brem, M., & Markham, M. (2025). Revisiting the CUP method in transfer pricing: global challenges and institutional voids. *Journal of International Accounting, Auditing and Taxation*.
- De Broe, L. (2008). *International Tax Planning and Prevention of Abuse: A Study under Domestic Tax Law, Tax Treaties and EC Law in Relation to Conduit and Base Companies*. IBFD Doctoral Series.
- Irawan, F., & Gumilang, G. (2024). Ex ante and ex post approaches in transfer pricing documentation: A review of PMK 172 of 2023 and examination practices by the tax officers. *EducoreTax*, 5(5), 1590. <https://doi.org/10.54957/educoretax.v5i5.1590>
- Irawan, F., & Gumilang, G. (2025). Transfer pricing regulation and compliance: A comparative analysis of Indonesia and Malaysia. *EducoreTax*, 5(12), 2000. <https://doi.org/10.54957/educoretax.v5i12.2000>
- Minister of Finance of the Republic of Indonesia. (2023). Regulation of the Minister of Finance Number 172 of 2023 concerning the Application of the Arm's Length Principle in Transactions Affected by Special Relationships (PMK 172/2023).
- MUC Consulting. (2023). PMK 172 Year 2023 reinforces ex-ante provision in transfer pricing regulation. MUC Consulting.
- OECD. (2015). *Aligning transfer pricing outcomes with value creation, Actions 8-10 - 2015 Final Reports*. OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris.
- OECD. (2018). *Revised guidance on the application of the transactional profit split method*. OECD Publishing, Paris.
- OECD. (2022). *OECD transfer pricing guidelines for multinational enterprises and tax administrations 2022*. OECD Publishing, Paris.
- Tcherveniachki, V. (2022). Transfer pricing considerations for procurement and sourcing entities. *International Transfer Pricing Journal*. IBFD.
- World Bank. (2017). *Transfer pricing in mining with a focus on Africa: A reference guide for practitioners*. World Bank Group.