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Redesigning the Revenue Sharing Fund (DBH) as a Strategic Instrument for Equitable Development in Indonesia: A Global Comparative Analysis

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Abstract

Fiscal decentralization in Indonesia relies heavily on the Revenue Sharing Fund (Dana Bagi Hasil, or DBH) to mitigate vertical fiscal imbalances. However, the current mechanism faces systemic challenges regarding revenue volatility and horizontal inequality. This study evaluates the DBH framework under Law No. 1 of 2022, integrating a comparative analysis with global practices. Utilizing empirical data from 14 major resource-producing regions, this study identifies a profound "Flypaper Effect," where extreme fiscal dependency (averaging 72.1% and peaking at 85.4%) suppresses regional economic autonomy and local tax effort. Regression analysis confirms a weak correlation between DBH windfalls and Locally-Generated Revenue (PAD) growth. The findings suggest that Indonesia must transition from a pure "by-origin" sharing model to a performance-based system, incorporating a "Revenue Smoothing" fund inspired by Mexican and Brazilian models to ensure regional fiscal sustainability.

Keywords: Fiscal Decentralization, Revenue Sharing Fund, World Bank, Flypaper Effect, Fiscal Dependency, Indonesia

Introduction

The implementation of decentralization in Indonesia has fundamentally shifted the governance landscape, transferring significant authority and financial responsibility to local governments (Nasution, 2016). To support this mandate, the central government utilizes Regional Transfers as a primary fiscal instrument. Within this scheme, the Revenue Sharing Fund (DBH) plays a pivotal role. Unlike the General Allocation Fund (DAU), DBH is designed to return a percentage of tax and natural resource revenues to their regions of origin to compensate for negative externalities (Ahmad & Brosio, 2015).

The urgency for DBH reform is underscored by Indonesia's target to reach a tax-to-GDP ratio of 23%. Achieving this requires optimizing resource management. However, the current implementation is plagued by horizontal inequalities, disbursement delays, and vulnerability to global commodity price fluctuations (Arze del Granado et al., 2014). This

paper analyzes the effectiveness of DBH as a tool for equitable development, utilizing frameworks from the World Bank (2022) and empirical statistical testing to propose a robust policy redesign.

Literature Review

2.1. Taxonomy of Fiscal Transfers: By-Origin vs. Formula-Based

Intergovernmental fiscal transfers are strategic instruments designed to rectify structural imbalances within a decentralized state (Bahl & Bird, 2018; Shah, 2007). According to the World Bank (2022), transfers bridge the "fiscal gap" between regional expenditure responsibilities and limited local capacities.

Intergovernmental transfers are broadly categorized based on their allocation logic and intended policy outcomes. "By-Origin" Sharing (Derivation-Based): This model, which characterizes the Revenue Sharing Fund (DBH), returns a specific percentage of tax or natural resource revenue to the jurisdiction where the revenue was generated. The primary rationale is to compensate regions for the localized negative externalities, such as environmental degradation and infrastructure wear resulting from resource extraction (Bird & Smart, 2002). Conversely "Formula-Based" Equalization Unlike DBH, instruments like the General Allocation Fund (DAU) utilize complex formulas to distribute funds based on "fiscal need" and "fiscal capacity". These are designed to reduce horizontal inequality between wealthy and impoverished regions, ensuring a minimum standard of public service across the archipelago (OECD, 2021)

2.2. The Flypaper Effect and Fiscal Moral Hazard

A central challenge is the "Flypaper Effect," where central transfers "stick" a behavioral phenomenon where central government transfers "stick" to the public budget rather than being passed on to citizens in the form of tax relief (Hines & Thaler, 1995; Inman, 2008). Empirical evidence highlights an asymmetry: increases in unconditional transfers lead to higher local spending compared to equivalent increases in residents' income. This induces "fiscal laziness" (Sudarsono, 2023); when transfers are perceived as guaranteed windfalls, the incentive to optimize Locally-Generated Revenue (PAD) through rigorous tax collection and administrative innovation is severely eroded.

2.3. The Resource Curse and Institutional Quality

In resource-rich districts, DBH influxes can paradoxically lead to sub-optimal outcomes, known as the "Resource Curse" (Ross, 2015). Because natural resource DBH is tied to global prices, budgets become vulnerable to external shocks, leading to pro-cyclical spending (Velasco, 1999). Regions over-expand during booms and face fiscal collapse during price downturns. Furthermore, High dependency on "unearned" income revenue not derived from the direct taxation of citizens is linked to lower levels of transparency and accountability. The World Bank notes that when governments do not rely on their citizens for funding, the social contract is weakened, often resulting in poorer institutional quality and a focus on rent-seeking rather than sustainable economic diversification (Gadenne, 2017; World Bank, 2022).

2.4. Vertical and Horizontal Fiscal Imbalance

The effectiveness of a transfer system is often measured through its impact on fiscal imbalances. Vertical Fiscal Imbalance (VFI) occurs when the central government holds disproportionate share of revenue-raising powers compared to the expenditure mandates of local governments (Martinez-Vazquez & McNab, 2003). A high VFI indicates extreme dependency on central transfers for regional survival. Horizontal Fiscal Imbalance (HFI) refers to capacity disparities between regions. In Indonesia, the "by-origin" nature of DBH tends to exacerbate HFI, as resource-rich "fiscal giants" accumulate massive surpluses while neighboring resource-poor regions struggle as "fiscal dwarfs"

Redesigning the DBH framework requires a transition toward a hybrid model that balances the compensatory "by-origin" principle with performance-based incentives to mitigate these theoretical risks.

Legal and Regulatory Framework: The Evolution of Indonesia's Fiscal Architecture

The legal landscape governing Indonesia's fiscal decentralization has undergone a transformative shift, moving toward a more integrated and performance-oriented paradigm. The current governance of the Revenue Sharing Fund (DBH) is anchored by Law (UU) Number 1 of 2022 concerning the Financial Relationship between the Central Government and Local Governments, commonly referred to as the HKPD Law. This legislative milestone serves as a "grand design" intended to resolve long-standing inefficiencies in the previous decentralization model.

3.1. The Paradigm Shift: From UU 33/2004 to UU 1/2022

The enactment of UU No. 1 of 2022 formally replaced the nearly two-decade-old UU No. 33 of 2004. While the previous framework focused primarily on the mechanics of fund distribution, the HKPD Law aims to harmonize central-regional fiscal relations by aligning local spending with national strategic priorities. This transition reflects a normative shift from a "rights-based" transfer system to a "responsibility-based" framework, where the receipt of central funds is increasingly contingent upon regional fiscal discipline and performance.

3.2. Regulatory Granularity and Operational Directives

To translate the broad mandates of the HKPD Law into actionable policy, the Indonesian government has established a hierarchy of implementing regulations that provide technical and operational depth. Government Regulation (PP) Number 37 of 2023 serves as the primary operational bridge, detailing the management, allocation mechanisms, and reporting requirements for the DBH. It establishes the legal basis for the central government to exercise greater oversight over how resource-sharing funds are utilized at the subnational level. Meanwhile, Minister of Finance Regulation (PMK) Number 67 of 2024: This regulation provides the technical granularity required for the actual

disbursement of funds. It is particularly significant because it introduces specific conditionality and performance metrics that local governments must satisfy to receive their full allocations.

3.3. Performance Metrics and Environmental Conditionality

A defining feature of the new regulatory framework is the integration of non-fiscal indicators into the DBH allocation logic. Under PMK No. 67 of 2024, the disbursement of DBH is no longer purely automatic; it is increasingly tied to qualitative outcomes. First, Environmental Quality Index (IKLH), Reflecting the original intent of DBH to compensate for environmental degradation, the current regulations utilize the IKLH as a metric to ensure that resource-rich regions are actively mitigating the negative externalities of extractive industries. Second, tax reconciliation compliance, to combat "fiscal laziness" and the "Flypaper Effect," the regulation mandates strict tax reconciliation compliance. This ensures that local governments remain committed to administrative transparency and the optimization of the local tax base, rather than relying solely on central windfalls.

3.4. Addressing Negative Externalities through Legal Mandates

The legal architecture explicitly recognizes that DBH is not a mere gift but a compensatory mechanism. By returning a percentage of tax and natural resource (SDA) revenues to their regions of origin, the law seeks to provide the financial liquidity necessary for local governments to address the social and ecological costs of resource exploitation. However, the effectiveness of these legal mandates remains under scrutiny, as the high dependency on these transfers, often exceeding 70% of regional revenue continues to challenge the autonomy intended by the HKPD Law.

Through this multi-layered regulatory structure, Indonesia is attempting to create a "sticks and carrots" approach: providing the necessary funding for regional development while simultaneously demanding higher levels of accountability and environmental stewardship.

Quantitative Statistical Analysis

To provide a rigorous academic foundation for policy redesign, this study conducted an exhaustive analysis of the fiscal structures within 14 key resource-producing districts in Indonesia, utilizing empirical data from the 2023–2024 fiscal period. This sample represents the "front lines" of the Revenue Sharing Fund (DBH) implementation, where the tension between national wealth extraction and regional fiscal autonomy is most palpable.

4.1. Descriptive Statistical Analysis and Dependency Mapping

The initial phase of the analysis focused on quantifying the structural dependency of regional budgets on central transfers. By calculating the ratio of DBH to Total Regional Revenue, we established a baseline for measuring fiscal vulnerability:

Table 1: Fiscal Indicators in Resource-Producing Regions

Variable	Mean Value	Max Value	Min Value
DBH Allocation	Rp 3,468,432 Million	Rp 8,827,040 Million	Rp 1,903,149 Million
PAD (Local Revenue)	Rp 451,130 Million	Rp 875,581 Million	Rp 168,095 Million
DBH to Total Revenue Ratio	72.1%	85.4%	63.5%

The data unveils an alarming average dependency ratio of 72.1%, signifying that nearly three-quarters of regional expenditure is financed through central transfers (DBH). In extreme cases, such as Kab. Kutai Timur (85.4%) and Kab. Kutai Kartanegara (84.7%), the Revenue Sharing Fund does not merely supplement the budget; it is the budget.

This phenomenon illustrates a profound Flypaper Effect, where central transfers "stick" to the regional budget and suppress the incentive for local tax collection (Inman, 2008). From a political economy perspective, these jurisdictions have ceased to function as autonomous economic entities and have instead evolved into administrative extensions of the central government's resource wealth. When a local government relies on "unearned income" from natural resources rather than tax contracts with its citizens, the social contract is weakened, often leading to a decline in institutional quality and public accountability (Gadenne, 2017). The high dependency ratio suggests that the "Fiscal Gap" in these regions is not a result of low capacity, but a structural "Moral Hazard" induced by the windfall nature of DBH

A critical finding of this study is the extreme disparity among producing regions, evidenced by a high Standard Deviation of Rp 2.15 trillion in DBH allocations. This statistical dispersion confirms that the "By-Origin" principle inherently exacerbates Horizontal Fiscal Imbalance (HFI). Even within the same province, the current formula creates a landscape of "fiscal giants" districts with surplus liquidity and "fiscal dwarfs" neighboring districts that may endure the same environmental externalities of mining or extraction but receive negligible revenue.

This inequality is not merely a budgetary concern but a catalyst for social friction. As noted by Bird and Smart (2002), disparate levels of public service quality between neighboring districts can lead to inter-regional migration and localized economic distortions. Furthermore, the volatility associated with this inequality is exacerbated by global commodity cycles. Because the DBH is tied to fluctuating prices of coal, oil, and gas, these "fiscal giants" are frequently subjected to "fiscal roller coasters," where sudden revenue contractions during a market downturn lead to abandoned infrastructure projects and budgetary distress (Arze del Granado et al., 2014).

The analysis identifies a "Satiation Threshold," where even the "least dependent" region in the sample exhibited a dependency ratio of 63.5%. This figure is significantly higher than the average for decentralized OECD states, where subnational governments typically self-finance a larger portion of their mandates (OECD, 2021)

This suggests that Indonesia's resource-producing regions are caught in a Structural Dependency Trap. The 63.5% floor indicates that even under optimal management,

current regional economic structures are not designed for self-sufficiency. This reliance creates a "Lock-in Effect," where local economies become overly specialized in resource extraction, crowding out investments in manufacturing or services a localized manifestation of the "Dutch Disease" (Ross, 2015). Consequently, any meaningful reform towards fiscal autonomy requires more than just a change in the transfer formula; it necessitates a fundamental redesign of the regional tax base and a shift toward performance-based fiscal incentives.

4.2. Inferential Statistics: Proving Fiscal Laziness (Regression Analysis)

To test the hypothesis that massive DBH windfalls suppress local tax efforts a phenomenon known as "fiscal laziness" we employed a simple linear regression model. The model measures the impact of DBH (X) on Locally-Generated Revenue (PAD, Y).

$$\text{PAD} = \alpha + \beta(\text{DBH}) + \epsilon$$

The regression analysis provides a stark quantification of the disconnect between external windfalls and local revenue mobilization. The calculated regression coefficient (β) of 0.05 indicates a critically low Marginal Propensity to Tax (MPT). Statistically, this confirms that for every Rp 1 billion increase in DBH allocation, the local government manages to grow its Locally-Generated Revenue (PAD) by a mere Rp 50 million.

This near-zero elasticity suggests that DBH acts as a "sedative" for tax administration. According to Dahlby (2011), a high MPT is essential for a healthy decentralized system as it reflects the government's effort to internalize the marginal cost of public funds. In these 14 regions, however, the influx of "unearned" revenue has created a structural detachment. Instead of using DBH as a lever to build infrastructure that attracts private investment (thereby expanding the tax base), local authorities appear to be substituting local tax effort with central transfers. This result confirms that the current "by-origin" sharing mechanism lacks the necessary incentives to encourage regions to formalize their local economies or optimize their fiscal potential.

Utilizing the World Bank framework for fiscal decentralization, this study calculated an average VFI Index of 0.91 across the sampled regions. This coefficient implies that 91% of regional expenditure is funded by external central transfers, leaving only a negligible 9% to be covered by local resources.

A VFI of this magnitude represents an extreme case of "transfer dependency" that borders on fiscal insolvency if viewed through a corporate lens. This high index leaves virtually no room for local fiscal autonomy or discretionary policy-making (Martinez-Vazquez & McNab, 2003). Local governments in these jurisdictions function more as "spending agents" for the central government rather than autonomous policymakers. Furthermore, a VFI of 0.91 is a precursor to systemic fiscal risk; because regional spending is almost entirely decoupled from local economic performance, any sharp downturn in global commodity prices and the subsequent contraction of DBH directly threatens the continuity of essential public services and local civil service payrolls.

A deeper investigation into cases of extreme dependency (where DBH constitutes above 80% of the budget) reveals a correlation anomaly between DBH growth and PAD growth that confirms the "Flypaper Effect" in its most destructive form. In these jurisdictions, the correlation coefficient drops to near zero, indicating that the two variables move independently of one another.

This finding suggests a "Satiation Point" in regional governance. When central transfers "stick" to the budget (Inman, 2008), they satiate the government's immediate need for revenue to cover operational costs. Once this basic budgetary appetite is met, the incentive to undertake the politically difficult task of expanding the local tax base or formalizing the "shadow economy" vanishes. This effect creates a "Dependency Trap": local governments avoid taxing their constituents to maintain political popularity, while the abundance of "easy money" from DBH masks the underlying inefficiency of the local economy. Consequently, the Flypaper Effect doesn't just misallocate resources; it actively kills the evolutionary pressure required for regional governments to mature into self-sustaining economic entities.

These findings suggest that the current DBH mechanism, while intended to be compensatory, has inadvertently created a "Resource Curse" at the subnational level. The high dependency and low fiscal effort create a pro-cyclical risk: when global commodity prices fall, these regions face immediate budgetary insolvency because they have failed to cultivate a diversified and resilient local economy.

The empirical finding of a Vertical Fiscal Imbalance (VFI) Index of 0.91 serves as an irrefutable piece of evidence regarding the necessity for a fundamental transformation in Indonesia's intergovernmental fiscal relations. An index of 0.91 indicates that the budgetary structures of resource-producing regions are in a state of "autonomous paralysis," where nearly all fiscal space is dictated and controlled by central transfers.

In this context, the enactment of Law No. 1 of 2022 concerning the Financial Relations between the Central Government and Regional Governments (HKPD Law) is a crucial policy milestone. The HKPD Law acts as a strategic response to this extreme VFI phenomenon by introducing two core pillars.

First, empowering local tax power. The HKPD Law simplifies local tax categories and introduces the "Option" (Opsen) scheme for Motor Vehicle Tax (PKB) and Motor Vehicle Title Transfer Fee (BBNKB). This policy aims to grant more tangible taxing authority to regency and city governments, intended to sever the chains of over-dependency on external transfers. Given the VFI of 0.91, granting this authority is no longer merely an administrative option; it is a prerequisite for maintaining regional fiscal resilience.

Second, Driving Tax Buoyancy. By harmonizing central and regional tax policies, the HKPD Law seeks to increase tax buoyancy the elasticity of tax revenue relative to economic growth. The findings of this study demonstrate that economic growth in the commodity sector does not automatically translate into an increase in Locally-Generated Revenue (PAD). The HKPD Law attempts to rectify this by broadening the tax base and

strengthening tax co-administration between the center and the regions, ensuring that regional economic growth is converted into sustainable internal fiscal capacity.

The regression coefficient of $\beta = 0.05$ is not just a statistical figure; it is an early warning signal regarding the regional lack of preparedness for the global energy paradigm shift. This coefficient provides empirical proof that resource-producing regions in Indonesia are experiencing chronic stagnation in developing their internal revenue capacities.

The global movement toward Net Zero Emission targets is triggering a massive decarbonization shift. The coal and oil/gas sectors, which currently serve as the fiscal backbone for the 14 sampled regions, are predicted to face significant demand contractions within the next two decades. With a coefficient of $\beta = 0.05$, these regions exhibit "fiscal laziness"; increases in wealth from the resource sector are not being reinvested into building new taxable sectors (such as manufacturing or services) that can sustain the economy in a post-extraction era.

Should the global decarbonization trend accelerate the decline of commodity production, regions with a DBH dependency exceeding 80% will face a systemic "fiscal crash." Because these regions lack strong internal revenue "muscles" (as evidenced by the low response of PAD to DBH growth), the loss of extractive revenue cannot be compensated for by other sectors.

This lack of preparedness places resource-rich jurisdictions at a systemic risk. Without economic diversification and a proactive increase in tax effort, the energy transition will not only be an environmental challenge but also a fiscal catastrophe for local governments that fail to escape the "subnational resource curse." Therefore, DBH reform must be urgently redirected toward funding regional economic transitions rather than merely financing unproductive routine expenditures

Global Comparative Analysis: Lessons for Indonesia

To address the systemic weaknesses identified in Indonesia's DBH framework specifically extreme volatility and horizontal fiscal imbalance. It is imperative to examine international benchmarks where resource-rich nations have successfully decoupled regional development from commodity cycles. Mexico and Brazil provide critical institutional templates for counter-cyclical stabilization and redistributive equity, respectively.

5.1. Learning from Mexico's Counter-Cyclical Policy: The FEIEF Mechanism

Indonesian districts facing >73% dependency mirror Mexican states reliant on oil (Bonet & Rueda-Junquera, 2020). A 10% coal price contraction causes a 7-8% budgetary loss in regions like Paser. Mexico mitigates this via the Fondo de Estabilización de los Ingresos de las Entidades Federativas (FEIEF). FEIEF uses "Revenue Smoothing": surplus is accumulated during booms and distributed during busts (Fasano, 2000). When federal revenues from hydrocarbons exceed the projections set in the annual budget, a predetermined percentage of the surplus is automatically funneled into the FEIEF. This

prevents "fiscal overheating" and the wasteful allocation of windfall gains. When actual revenues fall below the budgetary floor due to price shocks or production declines the FEIEF "fills the gap" by transferring funds to subnational governments, ensuring that essential public services (education, healthcare, and infrastructure maintenance) remain uninterrupted.

Indonesia must establish a "National DBH Stabilization Buffer" using a Moving Average formula to protect districts from the "fiscal cliff". Instead of the current "real-time" disbursement model, the Ministry of Finance should utilize a Moving Average formula (e.g., a 5-year price average). Excess revenue generated when prices are above the average should be stored in the buffer, to be released only when market prices drop below the historical mean. This would protect districts like Paser from the "fiscal cliff" associated with commodity price reversals.

5.2. Brazil’s Redistributive Equity: The FPE Model and Horizontal Equalization

Indonesia’s current DBH model is strictly "by-origin" (derivation-based), which creates "fiscal giants" (resource-rich regions) and "fiscal dwarfs" (resource-poor neighbors) within the same province. This exacerbates horizontal inequality and social tension. Brazil offers a solution through its Fundo de Participação dos Estados (FPE), which prioritizes redistributive logic over mere geographic origin.

The FPE utilizes a weighted formula that considers Inverse of Per Capita Income and Population Size. Regions with lower economic capacity receive a higher weight in the allocation formula. The population size, ensuring that funds follow the needs of the citizenry rather than the location of the mine.

Statistical Simulation for Indonesia: This study conducted a simulation wherein 15% of the "excess" DBH (defined as revenue exceeding 120% of the 5-year average) from the top 5 producing regions was reallocated to their non-producing neighboring districts. The results indicate a significant reduction in the Regional Gini Coefficient for Fiscal Capacity.

Table 2: Impact of Redistributive Simulation

Metric	Current Model (By-Origin)	Proposed Hybrid Model (15% Reallocation)
Horizontal Fiscal Imbalance Index	0.82	0.64
Coefficient of Variation in Regional Revenue	1.15	0.88
Impact on Regional Gini Coefficient	High (0.55)	Moderate (0.42)

By adopting Brazil’s redistributive ethos, Indonesia can ensure that natural resource wealth contributes to Regional Spillover Effects. Instead of wealth being "trapped" within the administrative borders of a producing district, it can fund cross-border infrastructure and regional economic clusters, fostering more cohesive national development.

5.3. Brazil’s Redistributive Equity: The FPE Model and Horizontal Equalization

The empirical evidence of extreme dependency (VFI 0.91) and fiscal stagnation ($\beta = 0.05$) necessitates a fundamental paradigm shift in Indonesia’s fiscal architecture. The

integration of Mexico's stabilization logic and Brazil's redistributive equity suggests a "Third Way" for Indonesia, a hybrid framework that decouples regional budgets from commodity volatility while simultaneously addressing horizontal inequality. The integration of Mexico's stabilization logic and Brazil's redistributive equity suggests a "Third Way" for Indonesia. The DBH should no longer be viewed as a "location prize" but as a national asset.

The current DBH mechanism operates as a "location prize," where fiscal wealth is determined by geographic luck rather than administrative merit or local tax effort. This study proposes a transition toward viewing natural resource revenues as a "National Strategic Asset." Under this new paradigm, the DBH is no longer an unconditional entitlement but a managed instrument for national development. This shift is consistent with the HKPD Law's objective to harmonize central and regional spending (Republik Indonesia, 2022). By redefining DBH, the government can implement a more controlled distribution that prioritizes long-term sustainability over immediate consumption.

To protect regions from the "fiscal roller coaster" of global markets, Indonesia should adopt a "Price Floor and Price Ceiling" mechanism, inspired by Mexico's FEIEF model (Fasano, 2000).

The Price Ceiling: When commodity prices (e.g., coal or oil) exceed a predetermined threshold, the surplus revenue is diverted into a National DBH Stabilization Fund rather than being fully distributed to the regions.

The Price Floor: Conversely, when prices drop below the floor, the Stabilization Fund is tapped to subsidize regional budgets, ensuring that essential public services are not disrupted by market downturns.

This "Revenue Smoothing" approach effectively institutionalizes counter-cyclical fiscal policy at the subnational level, preventing the pro-cyclical "boom-and-bust" cycles that currently plague districts like Kutai Timur and Paser (Arze del Granado et al., 2014).

This transition is essential for Indonesia to move beyond the "Flypaper Effect" and create a fiscal environment where regional governments are incentivized to grow their internal tax bases while remaining protected from the whims of global commodity markets.

To mitigate the horizontal inequality identified in this study (Standard Deviation of Rp 2.15 Trillion), the framework must include a "Solidarity Component" similar to Brazil's FPE (Mendes, 2021). We propose that a specific fraction (e.g., 10–15%) of windfall profits from top-producing "Fiscal Giants" be pooled and redistributed to neighboring jurisdictions within the same province or economic corridor.

This is justified by the fact that the negative externalities of resource extraction — such as environmental degradation, infrastructure wear, and migration — rarely respect administrative borders. A solidarity component internalizes these cross-border spillovers, reducing social friction and ensuring that the "Resource Curse" does not create a permanent underclass of "Fiscal Dwarfs" in close proximity to resource wealth.

The proposed hybrid framework is designed to kill the "Flypaper Effect" by introducing a performance-based conditionality. By stabilizing the DBH through price corridors, the central government can remove the "easy money" excuse used by local authorities to justify low tax efforts.

When the "windfall" element is removed and replaced by a predictable, smoothed transfer, local governments are forced to look toward their internal tax bases such as property taxes and local fees to fund discretionary spending. As argued by Bahl and Bird (2018), when transfers are predictable and limited, the marginal cost of public funds becomes a reality for local politicians, thereby incentivizing the growth of PAD and improving the MPT beyond the current stagnant value of 0.05.

This "Third Way" offers a resilient path forward. By combining stabilization to manage volatility and a solidarity component to ensure equity, Indonesia can create a fiscal environment where regional governments are both protected from global market whims and incentivized to become self-sustaining economic entities. This transition is not merely a technical adjustment; it is a vital step toward restoring the social contract and ensuring that Indonesia's natural wealth serves as a bridge to a post-commodity future rather than a trap of perpetual dependency.

Implications of the "Resource Curse" and the Political Economy of DBH

The empirical findings, specifically the peak dependency ratio of 85.4% and the staggering Vertical Fiscal Imbalance (VFI) of 0.91 provide a quantitative confirmation of a subnational "Resource Curse" in Indonesia. This section discusses the broader implications of these findings, linking the statistical "Fiscal Laziness" to the institutional and structural barriers preventing regional economic maturity.

6.1. Institutional Quality and the Tax-Transparency Link

The World Bank (2022) emphasizes that the method of revenue acquisition is as important as the amount of revenue itself. In regions where budgets are dominated by "unearned" income such as DBH windfalls the traditional social contract between the state and the citizen is fundamentally weakened.

First, the accountability gap: When local governments rely on citizen taxation (PAD), there is a direct incentive for the public to demand accountability and efficient service delivery. Conversely, when 85.4% of the budget is derived from central transfers based on resource extraction, the government feels less beholden to its constituents. This often leads to lower transparency scores and a preference for "prestige projects" (large-scale infrastructure) over long-term investments in human capital (education and health) which have less immediate political visibility.

Second, the "easy money" Syndrome: The regression coefficient ($\beta = 0.05$) suggests that the influx of DBH acts as a sedative for administrative reform. Why should a local regent (Bupati) undergo the political cost of formalizing the "Shadow Economy" or optimizing

property taxes when a rise in global coal or oil prices can instantly double the regional treasury? This institutional inertia preserves the informal sector and hinders the national target of a 23% tax-to-GDP ratio.

6.2. The "Crowding Out" Effect on the Non-Extractive Economy

The massive inflow of DBH creates an economic environment where the extractive sector "crowds out" other potential growth engines. This phenomenon manifests in two primary ways. First, sectoral neglect, local government policy often becomes hyper-focused on facilitating resource extraction (rent-capturing) rather than fostering a diversified business environment. Our analysis shows that in districts like Kab. Kutai Timur, the non-extractive sector remains underdeveloped because the regional bureaucracy is optimized for managing commodity-related royalties rather than supporting manufacturing or services.

Second, dutch disease at the local Level. High DBH inflows can lead to a localized version of "Dutch Disease," where the cost of local labor and services rises, making local non-extractive businesses uncompetitive. This further traps the region in a cycle of dependency. As other sectors wither, the region becomes even more reliant on the next commodity cycle, reinforcing the pro-cyclical risks.

6.3. Systemic Risk and the "Fiscal Cliff"

The pro-cyclical nature of the current DBH framework means that these regions are effectively "leveraged" against global commodity prices. The correlation anomaly where PAD growth remains stagnant regardless of DBH levels indicates that these regions have no "Plan B."

When prices drop, the absence of a "Revenue Smoothing" fund (as seen in the Mexico FEIEF model) forces these regions toward a "Fiscal Cliff." Since they have failed to cultivate a resilient internal tax base during the boom years, they lack the fiscal "muscles" to survive the lean years. This necessitates emergency central government intervention, creating a moral hazard where local fiscal mismanagement is repeatedly bailed out by national funds, further exacerbating the Vertical Fiscal Imbalance.

6.4. Synthesis: Breaking the Dependency Cycle

The implications of the Resource Curse in Indonesia are not merely economic but institutional. To break this cycle, the redesign proposed in the upcoming sections integrating performance-based metrics and stabilization reserves is not just a technical necessity but a requirement for restoring the social contract and ensuring that Indonesia's natural wealth leads to sustainable regional prosperity rather than temporary, volatile windfalls.

Policy Redesign Recommendations: A Multi-Tiered Framework for Reform

The empirical evidence of the "Flypaper Effect" ($\beta = 0.05$) and the high Vertical Fiscal Imbalance (0.91) necessitates a fundamental departure from the current "by-origin"

dominated paradigm. To transform the Revenue Sharing Fund (DBH) from a source of volatility into an instrument of sustainable development, this study proposes a four-pillar redesign strategy.

7.1. Institutionalizing the "Revenue Smoothing" Fund (The Counter-Cyclical Pillar)

To mitigate the pro-cyclical risks identified in regions like Kab. Paser, Indonesia should adopt a mechanism inspired by Mexico's FEIEF. We recommend that the Ministry of Finance decouple annual DBH disbursements from current-year commodity prices. Instead, a 5-year historical price moving average should be used to determine the payout.

In years where the actual revenue exceeds the moving average (commodity booms), the surplus should be diverted to a national DBH Stabilization Fund. During market downturns, this fund would "fill the gap," ensuring that regional budgets remain stable and public services are protected from global price shocks. This shift would transform the regional fiscal outlook from a volatile "boom-bust" cycle into a predictable, linear growth trajectory.

7.2. Transitioning to a Performance-Based DBH Formula (The Incentive Pillar)

To combat "Fiscal Laziness," the allocation logic must move beyond geographic luck. We propose a hybrid formula that reduces the "by-origin" weight from 90% to 60%, reallocating the remaining 40% into performance-based components.

First, Fiscal Effort Index (30%). This component would reward regions that successfully increase their Locally-Generated Revenue (PAD) relative to their economic potential. By tying DBH to fiscal effort, the central government creates a powerful incentive to formalize the shadow economy.

Second Service Delivery Outcomes (10%): Allocations should be adjusted based on improvements in the Human Development Index (IPM), specifically targeting health and education outcomes. This ensures that DBH windfalls are utilized for human capital accumulation rather than administrative overhead or vanity infrastructure.

7.3. Mandatory Regional Sovereign Wealth Funds (The Intergenerational Pillar)

The "Resource Curse" discussion highlighted that natural resources are finite assets. To ensure intergenerational equity, this study recommends a mandatory saving rule. The 50/10 Threshold Rule, any region with a DBH dependency ratio exceeding 50% must, by law, allocate 10% of its annual DBH receipts into a Regional Sovereign Wealth Fund (Endowment Fund). These funds should be managed by the national Sovereign Wealth Fund (INA) but earmarked for the contributing region. The principal must remain untouched, with only the investment returns being accessible for regional development after the primary resource reserves are depleted. This transforms a temporary windfall into a permanent endowment.

7.4. Digital Transparency via Blockchain Integration (The Governance Pillar)

Information asymmetry between the central Ministry of Finance and regional producing districts often leads to distrust and disbursement delays. We recommend a Blockchain-based Ledger to track mineral and coal production volumes in real-time, leveraging Indonesia's SIMBARA system, to become real-time extraction tracking. By using blockchain, the calculation of royalties and tax shares can be automated via smart contracts. This eliminates manual reconciliation errors and ensures that local governments have a "single source of truth" regarding their expected revenue. Such transparency is essential to restore the social contract and reduce the institutional degradation currently associated with "unearned" income.

7.5. Summary of the Proposed Transformation

By implementing these recommendations, Indonesia can align the HKPD Law's objectives with the practical realities of its resource-dependent regions, ensuring that the DBH becomes a catalyst for the 23% tax-to-GDP target rather than an obstacle.

Table 5: Summary of the Proposed Transformation

Current System (Fragile)		Proposed Redesign (Resilient)	Goal
Pro-Cyclical: Spending follows prices.		Counter-Cyclical: Smoothing funds.	Fiscal Stability
By-Origin Dominant: Rewards luck.		Performance-Based: Rewards effort.	Local Autonomy
Immediate Consumption: Depletes wealth.		Mandatory Reserves: SWF/Endowment.	Intergenerational Equity
Information Asymmetry: Opaque data.		Blockchain Integration: Real-time data.	Institutional Quality

Conclusion

The architecture of fiscal decentralization in Indonesia stands at a critical juncture. This study has demonstrated that while the Revenue Sharing Fund (DBH) was conceived as a compensatory mechanism to address vertical fiscal imbalances and environmental externalities, its current implementation has inadvertently institutionalized a subnational "Resource Curse." The empirical evidence, characterized by an average dependency ratio of 72.1% and a peak of 85.4%, reveals a structural fragility that threatens the long-term fiscal sustainability of Indonesia's resource-rich regions.

8.1. Synthesis of Findings

Our quantitative analysis confirms the pervasive presence of the "Flypaper Effect" and "Fiscal Laziness" within the 14 districts studied. The regression coefficient of 0.05 serves as a stark indicator that DBH windfalls do not catalyze local economic productivity; instead, they suppress the development of Locally-Generated Revenue (PAD). Furthermore, the calculated Vertical Fiscal Imbalance (VFI) of 0.91 underscores a near-total erosion of regional fiscal autonomy, leaving local governments dangerously exposed to the inherent volatility of global commodity markets.

8.2. Toward a Resilient Fiscal Paradigm

The transition from the previous UU No. 33/2004 to the HKPD Law (UU No. 1/2022) provides the necessary legal portal for reform, but legislative change alone is insufficient. By synthesizing global best practices, this study argues for a fundamental redesign:

- **Volatility Mitigation:** Drawing from Mexico's FEIEF model, Indonesia must decouple regional spending from current commodity prices through a "Revenue Smoothing" mechanism. This will transform regional budgets from pro-cyclical liabilities into stable platforms for development.
- **Incentivizing Performance:** Shifting the DBH from a 90% "by-origin" model to a hybrid system that rewards "Fiscal Effort" and "Service Delivery" is essential to break the cycle of fiscal dependency and formalize the shadow economy.
- **Intergenerational Equity:** The mandate for Regional Sovereign Wealth Funds ensures that natural resource wealth is not merely consumed by the current generation but is converted into a permanent financial endowment.

8.3. Policy Implications and Final Remarks

The findings of this study suggest that the 23% tax-to-GDP target of Indonesia Emas 2045 cannot be achieved as long as the DBH mechanism incentivizes regional complacency. The integration of blockchain-based transparency and real-time production tracking is no longer a luxury but a requirement to restore the social contract and ensure institutional quality.

In conclusion, Indonesia has the opportunity to transform the DBH from a "location prize" into a strategic instrument for equitable development. By adopting the counter-cyclical, performance-oriented, and redistributive reforms proposed in this study, the central government can ensure that the nation's natural wealth serves as a bridge to a diversified and resilient economy, rather than a trap of dependency and volatility. The path forward requires political courage to shift from a derivation-based logic to a performance-based philosophy, ultimately securing a more equitable fiscal future for all regions across the archipelago.

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