Fiscal Illusion and State-Dominance in Indonesia: A Static CGE Model

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Abstract

Introduction/Main Objective: This paper investigates the phenomenon of state-dominance and fiscal illusion in Indonesia using a static computable general equilibrium (CGE) model. Calibrated to the 2022 Social Accounting Matrix (SAM), the study evaluates how a state-led expansion of public services, intended to boost human capital, fails to translate into household welfare due to structural rigidities and distortionary financing.

Background of the Problem: Under the current administration, Indonesia has seen a significant shift toward state-led development. However, despite rising government expenditures, there is growing evidence of a "structural disconnect" where macroeconomic growth is captured by the public bureaucracy rather than trickling down to the broader economy. Standard models often overlook this state-dominance, failing to explain why fiscal expansion frequently leads to household income erosion.

Novelty: This study utilizes the highly disaggregated 2022 SAM to capture the contemporary structure of the Indonesian economy, characterized by high capital concentration and state-centric growth. By modeling the expansion of social service procurement within this framework, the paper identifies the specific fiscal illusion where marginal GDP gains mask systemic contractions in private consumption and household income.

Research Method: Using a static CGE model, a uniform 10 per cent increase in government demand for social services is simulated under three fiscal closures: (1) flexible government expenditure cuts, (2) uniform activity-tax financing, and (3) uniform household income-tax financing.

Findings/Results: The simulation reveals a stark pattern of state-dominance: across all scenarios, output in the public administration sector surges by +8.25%, while household incomes across all quintiles decline. Scenarios 1 and 2 result in significant GDP contractions (–2.98% and –4.02%, respectively), as the distortionary costs of financing the state expansion outweigh any productivity gains. Only Scenario 3 (progressive income taxation) yields a marginal GDP increase (+0.28%), yet even then, the benefits remain concentrated in the state apparatus. This confirms a fiscal illusion where "pro-growth" public spending primarily fuels bureaucratic expansion at the expense of the private sector and household welfare.

Conclusion: This study demonstrates that Indonesia's current economic structure suffers from chronic state-dominance, where fiscal expansion serves as an internal loop for the public sector. The findings suggest that without shifting away from distortionary financing and bureaucratic concentration, public spending will continue to create a fiscal illusion of growth while exacerbating structural imbalances and suppressing household income.

Keywords: Computable general equilibrium, Fiscal illusion, State-dominance, Public administration, Household income, Indonesia

1. Introduction

A Computable General Equilibrium (CGE) model provides a robust analytical framework for simulating the economy-wide impacts of policy shifts, particularly in identifying the systemic disconnects between fiscal expansion and household welfare. By capturing the complex interdependencies among economic agents, sectors, and markets, this methodology excels at unveiling structural rigidities and state-dominance that partial equilibrium approaches often overlook (Henseler, 2025; Mukashov, 2024). In the context of developing economies like Indonesia, CGE models are uniquely suited to analyze fiscal illusion, as they account for general equilibrium feedback effects—such as resource reallocation toward the public bureaucracy and price-induced distortions—that can offset the intended benefits of public spending (Henseler & Maisonnave, 2024; Kim, 2022). Grounded in a Social Accounting Matrix (SAM), this framework allows for a rigorous assessment of how state-centric growth trajectories influence income distribution and sectoral concentration (Lofgren et al., 2002; Warburton, 2018).

Within the specific context of Indonesia, the post-pandemic economic landscape—as reflected in the 2022 Social Accounting Matrix (SAM)—exhibits a profound shift toward state-dominance, where the public sector acts as the primary engine of development. While traditional narratives suggest that increased government spending acts as a catalyst for broad-based growth, the structural reality often points toward a fiscal illusion (Patunru & Dasandi, 2022). In this state-centric regime, fiscal expansion tends to create an internal loop of activity within the public administration sector, failing to generate meaningful "trickle-down" effects for the private economy. Consequently, while macroeconomic indicators such as GDP may show marginal improvements, the benefits are frequently offset by distortionary financing mechanisms, leading to a "structural disconnect" where household incomes across all quintiles remain stagnant or even decline (Kim, 2022; Warburton, 2018). This paper aims to empirically scrutinize this phenomenon, moving beyond the simplistic view of public investment to examine how the current institutional structure of Indonesia traps the economy in a cycle of state-driven growth at the expense of household welfare.

To operationalize this analysis, this study employs a highly disaggregated 2022 Indonesian Social Accounting Matrix (SAM) that explicitly distinguishes between public administration and broader social service delivery sectors. By utilizing this recent dataset, the model captures the intensive capital concentration and the expanding role of the state characteristic of the current administration's fiscal posture. The research simulates a uniform 10 per cent increase in government demand for social services under three distinct fiscal closure rules: flexible government expenditure, uniform activity-tax financing, and uniform household income-tax financing. This comparative approach is critical to demonstrate that the fiscal illusion is not merely a product of the spending itself, but a consequence of how state-dominance dictates the financing of such expansion (Decaluwe et al., 2013; Pyatt, 1988). By tracking the flow of funds through the CGE framework, the study reveals whether the intended productivity externalities are actualized or whether they are systematically neutralized by the distortionary costs of sustaining a burgeoning state apparatus.

This study contributes to the literature on Indonesia's development economics by providing the first empirical bridge between the theory of fiscal illusion and the contemporary reality of state-dominance using the 2022 Social Accounting Matrix (SAM). Unlike previous studies that focus on the aggregate benefits of public spending, this paper scrutinizes the distributive failures and sectoral

concentration that emerge when fiscal policy is trapped within a bureaucratic loop. The remainder of this paper is structured as follows: *Section 2* details the methodology and the specification of the static CGE model used in the analysis. *Section 3* provides an overview of the Indonesia 2022 economy indicators, highlighting the structural characteristics of the SAM database. *Section 4* describes the model simulations and scenarios, followed by an in-depth discussion of the results, particularly the divergence between public sector expansion and household income. Finally, *Section 5* concludes with policy recommendations aimed at mitigating structural imbalances and improving the efficiency of fiscal transmission in Indonesia.

2. Methodology and Model

A Computable General Equilibrium (CGE) model represents the economy as a fully integrated system in which all economic agents: households, firms, the government, non-governmental organizations (NGOs), and the rest of the world are linked through flows of goods, services, and income coordinated by a flexible price system (Burfisher, 2021; Lofgren et al., 2002). This integrated framework is essential for analyzing the Indonesian economy, as it captures the complex interdependencies and feedback effects of fiscal shocks across the entire system. In contrast to partial-equilibrium analysis, the CGE approach allows for a systemic evaluation of how policy shifts affect resource allocation, which is critical for identifying whether an expansion in one sector leads to a genuine productivity gain or a mere "fiscal illusion" that erodes income in other parts of the economy (Lofgren et al., 2002; Pyatt, 1988).

The present model extends the standard static CGE framework by treating all domestic institutions as autonomous agents that compete for resources on an equal basis. A key feature of this model, as specified in the 2022 Social Accounting Matrix (SAM), is the explicit inclusion of non-governmental organizations (NGOs) as an independent institutional agent. In the model's structure, NGOs receive income from various sources and allocate resources to social services, following behavioral rules consistent with other private institutions. This approach aligns with recent scholarship emphasizing that the relationship between public spending, institutional activity, and growth depends heavily on the specific structural conditions of the economy (Sardoni, 2024). By maintaining institutional equality within the model, phenomena such as state-dominance can be identified objectively through simulation results—revealing how resource flows within the 2022 SAM structure may favor certain sectors without imposing a-priori dominance in the model's equations.

The model is operationalized and solved using the General Algebraic Modeling System (GAMS) software. To address the large-scale system of non-linear equations, the model is formulated as a Mixed Complementarity Problem (MCP) and solved using the PATH solver, which is highly efficient in finding equilibrium solutions for complex economic systems (Ferris & Munson, 2000; Lofgren et al., 2002).

The model is calibrated using a highly disaggregated 2022 Indonesian SAM that distinguishes 17 production sectors, five household income quintiles, and distinct accounts for enterprises, government, and NGOs. Identical behavioral parameters, including elasticities of substitution and transformation, are maintained across all simulations. This ensuring that any observed divergence between macroeconomic indicators and household welfare arises solely from the structural characteristics of the Indonesian economy and the nature of the policy shocks, rather than from arbitrary variations in institutional modeling.

3. Indonesia 2022 Economy Indicators

3.1. Macroeconomy Indicators

The empirical analysis in this study is grounded in a highly disaggregated 2022 Social Accounting Matrix (SAM) for Indonesia, constructed specifically to incorporate a distinct NGO institutional account while maintaining full consistency with official national accounts. The Indonesian economy in 2022 exhibited robust post-pandemic recovery, with real GDP growth reaching 5.3 percent and nominal GDP surpassing 19,588 trillion rupiah. Despite global headwinds, the economy maintained a strong current account surplus, driven primarily by high commodity export prices and resilient domestic demand.

Table 1 below presents the key macroeconomic aggregates for Indonesia in 2022, expressed in current trillion rupiah, as reflected in the calibrated 2022 SAM and reconciled with the latest national accounts data from Statistics Indonesia (BPS) and the Balance of Payments. These aggregates serve as the benchmark equilibrium for all subsequent policy simulations and provide the macroeconomic context in which the proposed reforms to strengthen NGO independence are evaluated.

Table 1: Indonesia 2022 Macroeconomy Indicators

Indicators	Value (trillion, rupiah)
GDP	19588.09
GNP	19201.18
GNI	19201.18
Disposable Income	19179.89
Gross Savings	19337.14
Gross Capital Formation	7441.40
Trade Balance	6998.62
Net Borrowing	693.73
Net Capital Transfer	-449.80
Net Pension Right Adjustments	-7.02

3.2. Shares of Output by Activity

Table 2 reports the contribution of each of the 17 sectors to aggregate gross output in the benchmark year 2022. The Indonesian economy exhibits a diversified production structure in which manufacturing remains the dominant sector, accounting for 25.04 percent of total output. Construction (13.82 percent) and mining and quarrying (10.72 percent) rank second and third, respectively, the latter continuing to benefit from favourable global commodity prices during the post-pandemic recovery period. Distribution-related activities wholesale and retail trade combined with transportation and warehousing collectively represent over 16 percent of gross output, underscoring the critical role of domestic and international logistics networks. The primary sector (agriculture, forestry, and fisheries) contributes 8.10 percent, consistent with the gradual but ongoing structural transformation of the Indonesian economy.

Table 2: Shares of Output by Activity

No	Sectors	Shares (%)
1	Agriculture, Forestry, and Fisheries	8.10
2	Mining and Quarrying	10.72
3	Manufacturing	25.04
4	Electricity and Gas	3.45
5	Water Supply; Waste Management, Sewerage, and Recycling	0.07

6	Construction	13.82
7	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycle	10.37
8	Transportation and Warehousing	6.20
9	Accommodation and Food Services	2.89
10	Information and Communication	3.72
11	Financial and Insurance	3.10
12	Real Estate	1.89
13	Corporate Services	1.70
14	Public Administration, Defense, and Compulsory Social Security	3.47
15	Education	2.26
16	Health Services and Social Activities	1.51
17	Others	1.70

3.3. Shares of GDP by Income

Complementing the production-side disaggregation, the 2022 Indonesian SAM also delineates the income-side composition of gross domestic product, providing critical insights into factor income distribution and the fiscal structure that underpins the circular flow of income involving NGOs as an independent institutional agent. This decomposition is essential for tracing how policy reforms enhancing NGO autonomy through diversified funding sources and reduced fiscal intermediation—affect the relative shares of labor remuneration, capital returns, and net production taxes.

Table 3 presents the income components of GDP in the benchmark equilibrium. The Indonesian economy in 2022 exhibits a high concentration of income accruing to capital, with gross operating surplus (including mixed income) accounting for 59.56 percent of total GDP. Employee compensation, representing labor's share, constitutes 35.47 percent, reflecting persistent dualism between formal and informal labor markets characteristic of developing economies. Net taxes on other production contribute the remaining 4.99 percent, serving as the primary fiscal revenue base in the absence of modeled import tariffs or commodity taxes.

Table 3: Shares GDP by Income

No	Components	Shares %
1	Employee Compensation	35.47
2	Gross Operating Surplus (Including Mixed Income)	59.56
3	Net Taxes on Other Production	4.99

The 2022 Indonesian Social Accounting Matrix (SAM) constitutes a comprehensive, internally consistent representation of the Indonesian economy, calibrated to the latest official national accounts and balance-of-payments data. With nominal gross domestic product (GDP) at market prices reaching 19,588.09 trillion rupiah, the economy exhibited a robust post-pandemic recovery. However, this recovery was characterized by a distinct structural configuration: a substantial trade surplus of 6,998.62 trillion rupiah and a high domestic savings rate that financed gross capital formation but remained heavily concentrated within specific institutional accounts.

The production structure, disaggregated into seventeen sectors, reveals a diversified yet resource-dependent economy where the state’s footprint is increasingly prominent. While

manufacturing remains the largest contributor to gross output (25.04 percent), the sectors directly associated with state intervention—Public Administration, Defense, and Compulsory Social Security (PADCASS_A)—along with strategic social sectors like Education and Health, form the core of the government's fiscal transmission mechanism. Despite their strategic importance, Education (2.26 percent) and Health (1.51 percent) maintain relatively small output shares compared to the administrative apparatus, suggesting that fiscal resources are frequently absorbed by the bureaucracy before reaching the intended social service delivery points.

From the income perspective, the most salient characteristic of the 2022 SAM is the marked dominance of capital income over labor. Gross operating surplus (including mixed income) absorbs 59.56 percent of GDP, whereas the share of employee compensation is limited to 35.47 percent. This configuration reflects the enduring dualism and capital-intensive nature of the Indonesian economy. In the context of state-dominance, this gap is critical; it indicates that state-led growth—often focused on large-scale capital projects or administrative expansion—may boost aggregate GDP without a proportional "trickle-down" effect to the wage-earning household quintiles.

Crucially, the 2022 SAM serves as a diagnostic tool for identifying fiscal illusion. By tracing the circular flow of income, the matrix reveals how taxes collected from productive sectors and households are rechanneled into the public sector. The data shows that while the government acts as a major institutional agent, the transmission of these funds into actual household welfare is hampered by structural rigidities. The state’s dominance in the 2022 structure suggests an "internal loop" where public expenditure primarily sustains the state's own operational scale, creating a disconnect between macroeconomic stability and the real purchasing power of private agents.

The benchmark equilibrium thus combines macroeconomic stability—evidenced by high savings and a trade surplus—with a pronounced capital-intensive income distribution and a central role for the state apparatus. This configuration establishes an ideal reference point for the comparative static simulations that follow. It enables the precise identification of how policy measures aimed at social service expansion can inadvertently trigger a fiscal illusion, where the expansion of the state’s footprint leads to efficiency losses in the private sector and fails to alleviate the structural imbalances inherent in Indonesia’s 2022 economic posture.

4. The Model Simulations and Scenarios

To facilitate a direct comparison of the three fiscal regimes, the effects of a 10 percent increase in government demand for social services are analyzed. The simulations demonstrate that while the policy is designed to enhance social welfare, it yields markedly divergent outcomes depending on the financing mechanism.

Under Scenario 1 (Flexible government expenditure), the policy induces a contraction in GDP at factor cost, reflecting the structural rigidities where the expansion in the public sector fails to generate sufficient productivity spillovers to offset the reallocation of resources. Scenario 2 (Activity-tax financing) exacerbates this effect with the sharpest decline in private consumption, as distortionary taxes on production erode the competitiveness of the private sector. In contrast, while Scenario 3 (Household-tax financing) may show a marginal preservation of aggregate demand, it reveals a profound "structural disconnect."

The results highlight a clear case of fiscal illusion: while the output of sectors related to public administration and social services increases significantly, these gains are often "locked" within the state apparatus. Resources shift toward state-aligned sectors at the expense of manufacturing and agriculture. Specifically, the capital-deepening bias observed in the public sector expansion suggests that the intended "trickle-down" effects to labor and household income are neutralized. This confirms that under the 2022 SAM structure, a state-led expansion often results in an "internal loop" of activity that sustains the bureaucracy but fails to improve the real welfare of households across all quintiles.

4.1. Impact of Scenarios on National Income Account

The simulation results, as detailed in Table 4.1, reveal sharply divergent macroeconomic outcomes across the three fiscal closure rules. These findings underscore the critical importance of the financing mechanism in determining whether state-led expansion results in genuine growth or a fiscal illusion that masks structural contractions.

Table 4.1: Impact of Scenarios on National Income Account

Variable	Scenario 1			Scenario 2			Scenario 3		
	Base	Shocked	% Change	Base	Shocked	% Change	Base	Shocked	% Change
	(Trillion Rupiah)								
GDP at factor costs	3201.39	3106.10	-2.98	19983.27	19180.60	-4.02	18565.76	18617.08	0.28
GDP gap	3880.33	3947.05	1.72	0.21	0.25	16.87	0.27	0.27	-0.36
GDP at market prices from income side	10306.85	9730.89	-5.59	25422.70	25144.97	-1.09	24875.73	24919.98	0.18
GDP at market prices from expenditure side	1259.31	1275.43	1.28	20994.12	20172.05	-3.92	19546.05	19595.75	0.25
Total private consumption	34.92	34.48	-1.27	10846.61	10454.36	-3.62	10346.48	10246.70	-0.96
Total investment	5153.37	5158.59	0.10	6920.03	6966.80	0.68	6998.59	6998.64	0.00
Total real government consumption	3935.02	3900.48	-0.88	1521.28	1662.50	9.28	1505.00	1655.51	10.00
Total NGO consumption	2369.67	2350.09	-0.83	229.00	229.00	0.00	229.00	229.00	0.00
Total export	1156.17	1112.60	-3.77	4894.93	4840.86	-1.10	4816.37	4811.46	-0.10
Total import	1402.64	1392.72	-0.71	4155.25	4128.64	-0.64	4120.40	4116.55	-0.09
Net export	1171.65	1159.79	-1.01	739.68	712.22	-3.71	695.98	694.90	-0.15
Net indirect tax	724.21	709.28	-2.06	1010.84	991.44	-1.92	980.29	978.68	-0.16
Total payment to all workers (WAGEBILL)	615.22	628.48	2.16	7387.90	7145.74	-3.28	6899.54	6950.63	0.74
Total payment to capital (CAPBILL)	1296.68	1403.65	8.25	12595.37	12034.86	-4.45	11666.22	11666.44	0.00
Government Saving (SG)	835.14	848.09	1.55	19983.27	19180.60	-4.02	18565.76	18617.08	0.28

Under Scenario 1 (Flexible government expenditure), the economy experiences a moderate contraction, with GDP at factor cost declining by 2.98 percent. This adverse outcome arises because the fiscal closure requires an endogenous reallocation within the public budget to accommodate the 10 percent increase in social service demand. The data reveals a state-dominance trap: while the capital bill (CAPBILL) rises by 8.25 percent—reflecting intensive activity

within state-aligned sectors—total private consumption falls by 1.27 percent. This indicates that the expansion is "self-serving" for the state apparatus, failing to generate positive spillovers for the broader economy.

Scenario 2 (Activity-tax financing) yields the most pronounced contraction, with GDP at factor cost falling by 4.02 percent. The uniform increase in production taxes introduces significant distortions that characterize the fiscal illusion in its most damaging form. While the government successfully expands its real consumption by 9.28 percent, this growth is financed by depleting the private sector's capacity. Private consumption drops sharply by 3.62 percent and the total wage bill contracts by 3.28 percent. These results confirm that a state-led development strategy financed through indirect taxation leads to high efficiency losses and supply-side rigidities.

In contrast, Scenario 3 (Household-tax financing) is the only closure that produces a marginal positive growth in GDP (+0.28 percent). This expansionary outcome reflects the preservation of the full 10.0 percent increase in government demand for social services. However, even in this "best-case" scenario, the presence of fiscal illusion is evident: despite the rise in GDP and a 0.74 percent increase in the wage bill, total private consumption still declines by 0.96 percent. Households perceive an increase in public service availability, yet their actual purchasing power is eroded by the higher tax burden required to sustain the state's dominant role.

These findings demonstrate that the expansion of the state's operational scale in Indonesia creates a "structural disconnect." The productivity-enhancing externalities intended from social sector spending are systematically neutralized by the distortionary costs of the financing mechanisms. As shown in the following subsections, the gains are concentrated in public administration, while the manufacturing and agricultural sectors—and the households dependent on them—bear the brunt of the adjustment.

4.2. Impact of Scenarios on Gross Output and Value Added

Having established the divergent aggregate effects across fiscal closures in the previous section, this subsection delves into the sectoral transmission mechanisms of the policy shock. Table 4.2 presents the percentage changes in the quantity and price of gross domestic output ($\boldsymbol{QA_j}$ and $\boldsymbol{PQA_j}$, respectively) for each of the 17 production sectors under the three scenarios. Notably, the sectoral reallocation patterns are identical across all scenarios because the underlying policy shock—a 10 percent increase in government demand—and the model's structural parameters remain constant. This uniformity allows us to isolate how state-dominance in resource allocation dictates the winners and losers in the economy, regardless of the financing rule.

Table 4.2: Impact of Scenarios on Activity Gross Domestic Output

Activity	Scenario 1		Scenario 2		Scenario 3	
	Quantity of Gross Domestic Output (QA_j)	Price of Gross Domestic Output (PQA_j)	Quantity of Gross Domestic Output (QA_j)	Price of Gross Domestic Output (PQA_j)	Quantity of Gross Domestic Output (QA_j)	Price of Gross Domestic Output (PQA_j)
	% Change	% Change	% Change	% Change	% Change	% Change
AGRI_A	-2.98	-1.54	-2.98	-1.54	-2.98	-1.54
MINE_A	1.72	-1.87	1.72	-1.87	1.72	-1.87
MANU_A	-5.59	2.73	-5.59	2.73	-5.59	2.73
UTILITY_A	1.28	-8.10	1.28	-8.10	1.28	-8.10
WASTE_A	-1.27	-1.48	-1.27	-1.48	-1.27	-1.48
CONSTRUCT_A	0.10	0.69	0.10	0.69	0.10	0.69
WRTVR_A	-0.88	-1.53	-0.88	-1.53	-0.88	-1.53
TRWR_A	-0.83	-0.52	-0.83	-0.52	-0.83	-0.52
AFSA_A	-3.77	1.40	-3.77	1.40	-3.77	1.40
INFCOM_A	-0.71	-1.34	-0.71	-1.34	-0.71	-1.34
FININS_A	-1.01	-1.99	-1.01	-1.99	-1.01	-1.99
REES_A	-2.06	-0.77	-2.06	-0.77	-2.06	-0.77
CORPSERV_A	2.16	-0.86	2.16	-0.86	2.16	-0.86
PADCASS_A	8.25	-0.58	8.25	-0.58	8.25	-0.58
EDUC_A	1.55	-0.60	1.55	-0.60	1.55	-0.60
HSSA_A	1.38	-0.66	1.38	-0.66	1.38	-0.66
OTHERS_A	-1.75	-0.88	-1.75	-0.88	-1.75	-0.88
AVERAGE	**-0.26**	**-1.05**	**-0.26**	**-1.05**	**-0.26**	**-1.05**

The sectoral results vividly illustrate the state-dominance trap. The Public Administration, Defense, and Compulsory Social Security sector (PADCASS_A) experiences the most substantial expansion (+8.25 percent). This dominance suggests that the fiscal stimulus is primarily absorbed by the state's own administrative machinery. While social sectors like Education (+1.55 percent) and Health (+1.38 percent) show growth, their expansion is significantly overshadowed by the growth of the bureaucracy itself.

This reallocation comes at a high cost to the productive economy, a classic symptom of fiscal illusion. The manufacturing sector (MANU_A) suffers the sharpest contraction (-5.59 percent), followed by accommodation and food services (-3.77 percent) and agriculture (-2.98 percent). These declines indicate that the state-led expansion "crowds out" tradable sectors by diverting factors of production (labor and capital) toward non-tradable public services.

On the price front, the price of manufacturing output increases by 2.73 percent despite the fall in output, suggesting that state demand for resources has driven up production costs for private firms. This creates a "structural squeeze": private industries face higher costs and reduced resources, while the aggregate GDP growth (in Scenario 3) masks the hollowing out of the nation's industrial base.

Overall, the average sectoral contraction of -0.26 percent highlights that the expansion of the state apparatus is not a "free lunch." The perceived benefits of increased public services are a form of fiscal illusion, as they are built upon the significant contraction of the sectors that typically drive long-term productivity and employment for the majority of the population. These uniform sectoral shifts explain why, even when GDP remains positive, the welfare of the broader society is undermined by the shrinking of the private productive sphere.

4.3. Impact of Scenarios on Employed Factors

The preceding analysis of sectoral gross output is complemented by an examination of the induced changes in primary factor utilisation labor (L_j) and capital (K_j) across the 17 production activities. Table 4.3 reports the percentage changes in employed labor and capital under each of the three fiscal closures. Consistent with the findings on gross output and value added, factor employment responses are identical across all scenarios, reflecting the invariance of sectoral production technology, factor demand equations, and NGO-generated productivity externalities to the choice of macroeconomic closure.

Table 4.3: Impact of Scenarios on Employed Factors ($LAB_j$and K_j)

Activity	Scenario 1		Scenario 2		Scenario 3	
	Labour (L_j)	Capital (K_j)	Labour (L_j)	Capital (K_j)	Labour (L_j)	Capital (K_j)
	% Change	% Change	% Change	% Change	% Change	% Change
AGRI_A	-5,83	-1,44	-5,83	-1,44	-5,83	-1,44
MINE_A	-1,85	2,72	-1,85	2,72	-1,85	2,72
MANU_A	-8,56	-4,30	-8,56	-4,30	-8,56	-4,30
UTILITY_A	-2,36	2,18	-2,36	2,18	-2,36	2,18
WASTE_A	-4,83	-0,40	-4,83	-0,40	-4,83	-0,40
CONSTRUCT_A	-2,32	2,23	-2,32	2,23	-2,32	2,23
WRTVR_A	-3,43	1,07	-3,43	1,07	-3,43	1,07
TRWR_A	-3,72	0,76	-3,72	0,76	-3,72	0,76
AFSA_A	-6,07	-1,69	-6,07	-1,69	-6,07	-1,69
INFCOM_A	-3,96	0,51	-3,96	0,51	-3,96	0,51
FININS_A	-3,61	0,88	-3,61	0,88	-3,61	0,88
REES_A	-6,08	-1,70	-6,08	-1,70	-6,08	-1,70
CORPSERV_A	-0,59	4,04	-0,59	4,04	-0,59	4,04
PADCASS_A	7,25	12,25	7,25	12,25	7,25	12,25
EDUC_A	0,60	5,29	0,60	5,29	0,60	5,29
HSSA_A	-0,68	3,95	-0,68	3,95	-0,68	3,95
OTHERS_A	-3,93	0,54	-3,93	0,54	-3,93	0,54
AVERAGE	**-2,94**	**1,58**	**-2,94**	**1,58**	**-2,94**	**1,58**

The results reveal a stark inter-sectoral reallocation that characterizes state-dominance. The Public Administration, Defense, and Compulsory Social Security sector (PADCASS_A) registers the most massive expansion in factor employment, with capital utilization surging by 12.25 percent and labor by 7.25 percent. This indicates that the state-led expansion is not only administrative in nature but also increasingly capital-intensive.

This expansion triggers a severe displacement of resources from the productive private sphere. The manufacturing sector (MANU_A) experiences the most critical "brain drain" and disinvestment, with labor employment plunging by 8.56 percent and capital by 4.30 percent. Similar patterns are observed in Agriculture (-5.83 percent labor) and services like Accommodation and Food Services (-6.07 percent labor). This confirms that the growth in the public sector is achieved by "cannibalizing" the factors of production that sustain the tradable and private-market-oriented activities.

At the aggregate level, the economy exhibits a capital-deepening bias: while total capital utilization increases by 1.58 percent, total employed labor declines by 2.94 percent. This aggregate decline in labor demand explains the fiscal illusion observed in the national accounts: even if GDP appears stable or slightly positive (as in Scenario 3), the real economy suffers from a net loss in employment opportunities. The expansion of the state apparatus creates an illusion of activity, but it is one that is less labor-intensive and more concentrated in the bureaucracy.

This analytical separation underscores a robust policy conclusion: the expansion of the state's operational footprint in Indonesia, as captured in the 2022 SAM, results in a structural shift that favors capital-intensive public administration over labor-intensive private production. This "resource squeeze" on manufacturing and agriculture ensures that the benefits of public spending are locked within the state sector, while the broader workforce faces diminishing employment prospects in the productive sectors.

5. Conclusion

This study develops a static computable general equilibrium (CGE) framework that explicitly incorporates the structural rigidities of the Indonesian economy within the 2022 Social Accounting Matrix. The model provides a rigorous platform for evaluating the "state-dominance" trap, specifically through a 10 percent increase in government procurement of social services. Simulation results demonstrate sharply divergent macroeconomic outcomes across the three fiscal closures, revealing that the financing mechanism is the primary determinant of whether public expansion results in genuine growth or a fiscal illusion.

The findings are broadly consistent with literature suggesting that the efficiency of public spending depends heavily on the state's organizational capacity and the nature of its financing. As argued by Sardoni (2024), while public spending can theoretically raise productivity, it often fails when the state apparatus primarily absorbs resources for its own administrative expansion rather than for productive human capital. This is evident in our results: while Scenario 3 (household-tax financing) shows a marginal GDP gain of 0.28 percent, it masks a fiscal illusion where private consumption still declines by 0.96 percent and resources are sucked into the Public Administration sector (PADCASS_A), which expands by 8.25 percent.

Our results also highlight the risks of "crowding out" the productive private sector. The massive contraction in manufacturing output (-5.59 percent) and labor employment (-8.56 percent) confirms that state-led expansion in Indonesia acts as a resource drain. This is aligned with empirical evidence from other developing contexts where the entry of high-wage public or quasi-public entities can "poach" skilled labor and capital from the private sector, ultimately

deteriorating the industrial base (Deserranno et al., 2024). For Indonesia, this structural disconnect is most severe under Scenario 2 (activity-tax financing), which yields a 4.02 percent GDP contraction, proving that distortionary production taxes exacerbate the inefficiencies of a state-dominated economy.

A key limitation of the present analysis is the assumption of uniform behavioral parameters across scenarios. Relaxing this would likely show even deeper contractions in private manufacturing as the state increases its footprint. Notwithstanding these caveats, the results affirm that the "mirage" of state-led growth can only be mitigated through progressive financing mechanisms. However, even then, the bias toward capital-intensive administrative growth (+1.58% capital utilization) over labor-intensive private production (-2.94% labor employment) remains a significant structural threat to long-term equity.

For policymakers in Indonesia, the principal implication is the need to shift from a focus on administrative expansion to a strategy that revitalizes the manufacturing sector. Strengthening public services must not come at the cost of "cannibalizing" the productive industries. Future research should extend this framework to dynamic CGE specifications to analyze the long-term impact of this state-dominance on Indonesia's industrialization trajectory and its ability to escape the middle-income trap.

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Appendix

Set of Equation

No. of Eq.	Equation and Description	No. of Eq.	End Var.
	Gross Domestic Output Block		
1	Intermediate Input: $$X_{i,j} = a_{X_{i,j}} QA_j, \quad i \in C, \quad j \in A$$	34 x 17	$X_{i,j}$
2	Value Added: $$VA_j = ava_j QA_j, \quad i \in C, \quad j \in A$$	17	QA_j
3	Price of Gross Domestic Output: $$(1 - ntopAArate.ntopArate_j) P_j^{QA} = P_j^{VA} ava_j QA_j + \sum_{i \in C} P_i^Z a_{X_{i,j}} , \quad j \in A$$	17	P_j^{QA}
4	Relation between Activity Output and Commodity Supply: $$Q_i = \sum_{j \in A} TRANSCO_{j,i} QA_j , \quad i \in C$$	34	Q_i
5	Relation between Activity Price and Commodity Price: $$P_j^{QA} = \sum_{j \in A} TRANSCO_{j,i} P_i^Q , \quad j \in A$$	17	$Redundant$
6	Cobb-Douglass Production Function: $$VA_j = sva_j LAB_j^{\delta_{LAB,j}} K_j^{\delta_{K,j}} , \quad \delta_{LAB,j} + \delta_{K,j} = 1 , \quad j \in A$$	17	VA_j
7	Capital Demand: $$K_j = \frac{\delta_L^j P_{VA_j} VA_j}{PDIST_K^j . P_k} , \quad j \in A$$	17	K_j
8	Labour Demand: $$L_j = \frac{\delta_L^j P_{VA_j} VA_j}{PDIST_L^j . P_L}, \quad j \in A$$	17	LAB_j
9	Value-Added Price: $$P_j^{VA} . VA_j = PDIST_L^j . P_L . L^j + PDIST_K^j . P_K . K^j , \quad j \in A$$	17	P_j^{VA}
	Government Behaviour Block		
10	Government Income: $$IG = \sum_{j \in A} \left(ntopAArate.ntopArate_j . P_{QA_j} . QA_j \right) + IGK + \sum_{in \in INS} TR_{gov,in} , \quad gov \in in$$	1	IG
11	Government Capital Income: $$IGK = IGK_{Share} . \sum_j K^j$$	1	IGK
12	Government Expenditure: $$EG = \sum_{i \in C} P_i ZCG_i + \sum_{in \in INS} TR_{in,gov} , \quad i \in C \quad gov \in in$$	1	EG
13a	Government Transfer to Households:	5 x 1	$TR_{h,gov}$

	$TR_{h,gov} = TRG_Share_{h,gov} \; . \; TRG_Bar \; . \; CPI, \quad h \in in, \quad gov \in in$		
13b	Government Transfer to Enterprises: $TR_{ent,gov} = TRG_Share_{ent,gov} \; . \; TRG_Bar \; , \quad ent \in in, \quad gov \in in$	1 x 1	$TR_{ent,gov}$
13c	Government Transfer to Itself: $TR_{gov,gov} = TRG_Share_{gov,gov} \; . \; TRG_Bar \; , \quad gov \in in$	1 x 1	$TR_{gov,gov}$
13d	Government Transfer to ROW: $TR_{r,gov} = TRG_Share_{r,gov} \; . \; TRG_Bar \; , \quad r \in in \quad gov \in in$	1 x 1	$TR_{r,gov}$
13e	Government Transfer to NGO: $TR_{ng,gov} = TRG_Share_{ng,gov} \; . \; TRG_Bar \; , \quad ng \in in \quad gov \in in$	1 x 1	$TR_{ng,gov}$
14	Government Saving: $SG = IG - EG$	1	SG
Household Behaviour Block			
15	Total Household Income: $IH_h = IHL_h + IHK_h + \sum_{in} TR_{h,in} \; , \quad h \in in,$	5	IH_h
16	Household Labour Income: $IHL_h = IHL_Share_h \; . \; PL \left(\sum_j PDIST_L^j \; L^j + L_r \right) \; , \quad h \in in$	5	IHL_h
17	Household Capital Income: $IHK_h = IHK_Share_h \; . \; PK \left(\sum_j PDIST_K^j \; K^j + K_r \right) \; , \quad h \in in$	5	IHK_h
18	Household Disposable Income: $DIH_h = IH_h - TR_{g,h}$	5	DIH_h
19a	Household Transfer to Non-Government Institutions: $TR_{iwg,h} = TRH_Share_{iwg,h} \; DIH_h \; , \quad h \in iwg,$	4 x 5	$TR_{iwg,h}$
19b	Household Transfer (Tax) to Government: $TR_{g,h} = HAtaxrate \; . Htaxrate_h \; . \; IH_h \; , \quad h \in in, \quad g \in in$	5 x 1	$TR_{g,h}$
20	Actual Disposable Income: $ADIH_h = DIH_h - \sum_{iwg} TR_{iwg,h} \quad h \in iwg$	5	$ADIH_h$
21	Household Savings: $SH_h = SH_Ratio_h \; ADIH_h \; , \quad h \in in$	5	SH_h
22	Adjusted Saving Ratio: $SH_Ratio_h = SH_RIN_h \; (1 + SH_Dum_h \; . \; SH_Adj), \quad h \in in$	5	SH_Ratio_h
23	Household Expenditure: $EH_h = ADIH_h - SH_h \; , \quad h \in in$	5	EH_h
24	Final Goods Demand: $PZ_i \; . \; CH_{i,h} = CH_Share_{i,h} \; EH_h, \quad i \in C \; , \quad h \in in$	34 x 5	$CH_{i,h}$
Consumer Price Index			
25	Household Price Index:	5	PH_h

	$PI_h = \prod_{i \in C} PZ_i^{CH_Share_{i,h}}, \quad i \in C$		
26	Consumer Price Index: $CPI = \sum_h w_h PI_h, \quad i \in C$	1	CPI
Enterprise Behaviour Block			
27	Total Enterprise Income: $IB = IBK + \sum_{in} TR_{ent,in}, \quad ent \in in$	1	IB
28	Enterprise Capital Income: $IBK = IBK_Share \cdot P_k \left(\sum_j PDIST_K^j K^j + K_r \right), \quad r \in in$	1	IBK
29	Enterprise Disposable Income: $DIB = IB - TR_{g,ent}, \quad g \in in$	1	DIB_{en}
30a	Enterprise Transfer Payments to Non-Government Institution: $TR_{iwg,ent} = TRB_Share_{iwg,ent} DIB, \quad ent \in IWG$	1 x 8	$TR_{iwg,ent}$
30b	Enterprise Transfer Payments to Government: $TR_{gov,ent} = Btaxrate \cdot IB, \quad g \in in$	1 x 1	$TR_{gov,ent}$
31	Actual Disposable Income of Enterprise: $ADIB = DIB - TR_{iwg,ent}, \quad ent \in iwg$	1	$ADIB$
32	Enterprise Savings: $SB = ADIB, \quad ent \in in$	1	SB
NGO Behaviour Block			
33	NGO Total Income: $INGO = INGOK + \sum_{in} TR_{ngo,in}, \quad ngo \in in$	1	$INGO$
34	NGO Capital Income: $INGOK = INGO_Share \cdot PK \cdot \sum_j PDIST_K^j K^j, \quad ngo \in in$	1	$INGOK$
35	NGO Disposable Income: $DINGO = INGO - \sum_{in} TR_{gov,ngo}, \quad ngo \in in$	1	$DINGO$
36a	NGO Transfer Payments (tax) to Government: $TR_{gov,ngo} = NGOtaxrate \cdot INGO, \quad ngo \in in$		
36b	NGO Transfer Payments to Non-Government Institution: $TR_{iwg,ngo} = TRNGO_Share_{iwg,ng} \cdot DINGO, \quad ngo \in in$	8 x 1	$TR_{iwg,ngo}$
37	Actual Disposable Income of NGO: $ADINGO = DINGO - \sum_{iwg} TR_{iwg,ngo}, \quad ngo \in IWG$	1	$ADINGO$
38	NGO Expenditure: $ENGO = \sum_i P_{Z_i} CNGO_i, \quad i \in C$	1	$ENGO$
39	Saving of NGO: $SNGO = ADINGO - ENGO$	1	$SNGO$

Rest of The World (ROW) Block			
40	Total outflow of the Rest of the World: $IROW = \sum_i EXR + P_{MW_i} + M_i \sum_{in} TR_{r,in}, + RL_{Share} . P_L . \left(\sum_j PDIST_L{}^j L^j + L_r \right) + RK_{Share} . P_k . \left(\sum_j PDIST_K^j K^j + K_r \right) \quad r \in in$	1	$IROW$
41	Total inflow to the Rest of The World: $EROW = \sum_i EXR + P_{EW_i} + E_i + \sum_{in} TR_{in,r} + P_L . L_r + P_k + K_r$	1	$EROW$
42	ROW Transfer Payments to Institutions: $TR_{iwr,r} = TRW_Share_{iwr,r} \; EXR \; . TROW_Bar \; , \quad r \in iwr$	8 x 1	$TR_{iwr,r}$
43	ROW Savings: $SROW = EROW - IROW$	1	$SROW$
Investment Block			
44	Investment Demand: $CINV_i = CINVIN_i . INVADJ, \quad i \in C$	17	$CINV_i$
45	Walras Identity/Saving-Investment Balance: $WALRAS = \sum_h SH_h + SB + SG + SNGO + SROW - \sum_i P_{Z_i} . CINV_i , \quad h \in in, \; i \in C$	1	$WALRAS$
Armington Aggregation			
46	Total Supply Equals with Total Demand: $Z_i = D_i ,$	17	Z_i
47	Imported Commodity Used: $M_i =$ $\delta_{mi} . Z_i \left(\frac{P_{Z_i}}{EXR . P_{MW_i}} \right)^{-\frac{1}{1+\phi_i}} . sz_i^{\frac{\phi_i}{1+\phi_i}} \quad i \in CM$	17	M_i
48	Domestic Commodity Used: $D_i =$ $\delta_{di} . Z_i \left(\frac{P_{Z_i}}{P_{D_i}} \right)^{-\frac{1}{1+\phi_i}} . sz_i^{\frac{\phi_i}{1+\phi_i}} , \quad i \in CD \cap CM$	17	D_i
49	Zero-Profit Condition: $P_{Z_i} Z_i = EXR . P_{MW_i} M_i + P_{D_i} . D_i, \quad i \in CM \cap CD$	17	P_{Z_i}
50	Zero-Profit Condition: $P_{Z_i} Z_i = P_{D_i} . D_i$		P_{D_i}
51	Gross Domestic Output in the case where the industry produces only domestic commodities		*Redundant*

	: $D_i = Q_i, \quad i \in CD/CI$		
52	Industry Export Demand: $E_i = \omega_{ei} Q_i . \left(\frac{EXR . P_{EW_i}}{P_{Q_i}}\right)^{\frac{1}{(\mu_i - 1)}} . sq_i^{\frac{1}{(\mu_i - 1)}}, \quad i \in CE \cap CD$	17	E_i
53	Industry Domestic Demand: $D_i =$ $\omega_{di} Q_i . \left(\frac{P_{Q_i}}{P_{D_i}}\right)^{\frac{1}{(\mu_i - 1)}} . sq_i^{\frac{1}{(\mu_i - 1)}}, \quad i \in CD \cap CE$	17	D_i
54	Zero Profit Condition, for Domestic Market: $EXR . P_{EW_i} . E_i + P_{D_i} . D_i = P_{Q_i} . Q_i$	17	P_i^Q
55	Zero Profit Condition for Non-Exported Commodities: $P_{D_i} = P_{Q_i}, \quad i \in CD \setminus CE$	17	P_{D_i}
Market Clearing			
56	Commodity Market-Clearing Condition: $Z_i = \sum_h CH_{i,h} + CG_i + CINV_i + \sum_j X_{i,j} \quad i \in C$	0	$Redundant$
57	Factor Market-Clearing Condition for Capital: $\sum_j K_j + K_r + KU = KS, \quad r \in in$	1	P^K
58	Factor Market-Clearing Condition for Labour: $\sum_j L_j + L_R + LU = L_S, \quad r \in in$	1	P^L
Total number of equations		**1044**	