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ECONOMIC OPPORTUNITIES AND FISCAL CHALLENGES OF INDONESIA'S FREE NUTRITIOUS MEAL PROGRAM (MBG)

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ABSTRACT

The Free Nutritious Meal Program (Program Makan Bergizi Gratis/MBG), Indonesia's most ambitious social nutrition intervention since independence, was launched by President Prabowo Subianto in January 2025 with an initial budget of IDR 71 trillion (approximately USD 4.4 billion). Targeting 466 million beneficiaries at full scale by 2028 at an estimated cost exceeding IDR 820 trillion annually (23.4% of the state budget), MBG represents a paradigm shift in Indonesian social policy with profound economic and fiscal implications. This study employs a mixed-methods approach—combining fiscal impact modeling, computable general equilibrium (CGE) simulation, and qualitative policy analysis—to examine the program's economic opportunities across agricultural value chains, employment generation, human capital formation, and regional development, as well as its fiscal sustainability challenges including crowding-out effects, inflationary risks, and debt sustainability concerns. Drawing on international comparative evidence from Brazil, India, Ghana, Japan, and Mexico, the study finds that MBG's fiscal multiplier (1.21–1.52) justifies significant economic returns, but the program's unprecedented budgetary scale (2.7–23.4% of APBN across phases) creates structural fiscal risks requiring immediate institutional safeguards. A policy optimization framework—the Sustainable Nutritious Meal Investment (SNMI) model—is proposed, recommending phased implementation, mandatory local procurement, independent quality monitoring, and fiscal ceiling mechanisms to balance economic opportunity realization against long-term fiscal integrity.

Keywords: *free school meals; MBG program; fiscal sustainability; human capital; agricultural value chain; Indonesia*
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1. INTRODUCTION

On January 6, 2025, Indonesia launched what President Prabowo Subianto described as 'the largest social investment in our nation's history'—the Free Nutritious Meal Program (Program Makan Bergizi Gratis, hereinafter MBG). Rooted in Indonesia's constitutional mandate under Article 28H to protect citizens' rights to adequate nourishment, and responding to the nation's persistent child malnutrition crisis—with 21.5% child stunting prevalence ranking among the highest in Southeast Asia (SSGI, 2023)—MBG represents a decisive departure from targeted supplementary nutrition programs toward universal-scale food provision.

The program's initial 2025 budget of IDR 71 trillion (approximately USD 4.4 billion) represents 2.7% of the State Budget (APBN), delivering IDR 10,000 meals to approximately 82.9 million beneficiaries including schoolchildren from pre-primary through senior secondary education, pregnant women, lactating mothers, and toddlers. The government's full-scale implementation target envisions expanding coverage to 466 million beneficiaries by 2028 at an estimated annual cost exceeding IDR 820 trillion—equivalent to 23.4% of the current APBN—making MBG the single largest line item in Indonesian fiscal history.

The economic and fiscal implications of this ambition are profound and contested. Proponents, drawing on human capital theory (Becker, 1964) and nutrition-productivity linkages (Strauss & Thomas, 1998), argue that the program constitutes a high-return investment in Indonesia's demographic dividend—a formative period during which the nutritional foundation for future labor productivity and cognitive capacity is established. The World

Bank's Human Capital Index (2024) places Indonesia at 0.54, implying that a child born in Indonesia today will be only 54% as productive as they could be with full health and education—a deficit that adequate nutrition directly addresses.

Critics, however, point to the structural fiscal vulnerabilities exposed by MBG's unprecedented budgetary scale. Indonesia's fiscal framework, governed by Law No. 17/2003 on State Finance, imposes a 3% of GDP deficit ceiling and a 60% of GDP debt ceiling. MBG's full implementation trajectory—if financed entirely through deficit spending—would require deficit relaxation, debt restructuring, or equivalent expenditure reductions in other development programs. The inflationary risk from a procurement program of this magnitude operating in imperfectly competitive local food markets adds further macroeconomic complexity.

This study contributes to the emerging literature on MBG by providing the first systematic economic and fiscal analysis spanning the program's full implementation horizon (2025–2028). The research addresses four questions: (1) What economic opportunities does MBG create across agricultural value chains, labor markets, and human capital formation? (2) What are the program's fiscal sustainability risks and what mechanisms can mitigate them? (3) How do international comparators (Brazil, India, Ghana, Japan, Mexico) inform optimal implementation design? (4) What institutional architecture is required to realize MBG's economic potential while maintaining fiscal integrity?

The study proceeds as follows: Section 2 reviews the theoretical foundations and comparative empirical literature. Section 3 describes the methodology including fiscal modeling, CGE simulation approach, and qualitative policy analysis. Section 4 presents empirical results and discussion organized around economic opportunities (4.1–4.3), fiscal challenges (4.4–4.5), international comparative lessons (4.6), and integrated policy analysis (4.7). Section 5 concludes with the SNMI policy framework and research implications.

2. LITERATURE REVIEW

2.1 Human Capital Theory and Nutrition Investments

The theoretical justification for large-scale school feeding programs rests fundamentally on Becker's (1964) human capital theory, which posits that investments in health and nutrition generate future productivity returns that exceed their costs when properly implemented and sustained. In the developing country context, Grantham-McGregor et al. (2007) estimate that children suffering from malnutrition face a 20% deficit in adult wages, translating nutrition investments into quantifiable economic returns.

The nutrition-cognition-productivity pathway, established by Strauss and Thomas (1998) through household survey analysis across six developing countries, demonstrates that adequate caloric and micronutrient intake in early childhood (ages 0–5) and school years (ages 6–14) significantly improves cognitive development, school attendance, and ultimately labor market productivity. In Indonesia's specific context, Headey et al. (2018) estimate that reducing stunting prevalence by 10 percentage points would increase adult labor productivity by 8.3% on average, with higher returns in skill-intensive sectors targeted by the 2045 Vision.

Public economics theory (Musgrave, 1959) frames nutrition programs as merit goods—commodities whose social returns exceed private returns due to positive externalities in human capital accumulation, reduced future healthcare costs, and intergenerational poverty reduction. This merit goods framework justifies public provision beyond what purely market-based mechanisms would supply, providing the normative economic foundation for MBG's universal design.

2.2 Fiscal Multiplier Theory and Social Expenditure

Keynes's (1936) aggregate demand framework and its modern fiscal multiplier elaborations (Blanchard & Leigh, 2013; Ilzetzki et al., 2013) provide the macroeconomic rationale for assessing MBG's demand-side economic impact. The fiscal multiplier—the ratio of GDP change to government expenditure change—for social spending programs in developing economies typically ranges from 1.1 to 1.7 (IMF, 2014), with higher values observed when spending reaches low-income households with high marginal propensities to consume.

Christiano et al. (2011) demonstrate that fiscal multipliers are substantially larger during periods of economic slack, suggesting that MBG's launch in the post-COVID economic recovery period may capture higher-than-average multiplier values. However, Perotti (2004) and Ardagna (2004) caution that large, sustained social spending expansions can trigger Ricardian equivalence effects—private savings increases anticipating future tax rises—and crowding-out of private investment, potentially reducing the effective multiplier below unity in the long run.

2.3 Agricultural Value Chain Development and Local Procurement

The economic development literature (Reardon et al., 2009; Minten et al., 2017) identifies institutional procurement programs as powerful instruments for agricultural value chain upgrading when designed with mandatory local sourcing provisions. Brazil's Programa Nacional de Alimentação Escolar (PNAE), requiring 30% of food procurement from family farmers, generated documented income multipliers of 1.74 for participating smallholder households (Sidaner et al., 2013). The mechanism operates through guaranteed demand, which enables smallholders to access formal markets, invest in productivity improvement, and build organizational capacity through cooperatives.

In Indonesia's context, Reardon and Timmer (2014) identified that MSME food processors represent the critical missing link between smallholder agricultural production and organized food distribution channels. MBG's local procurement mandate—requiring prioritization of locally sourced ingredients through cooperative networks—creates the potential to develop integrated local food systems that simultaneously support agricultural production, food processing MSMEs, and nutritional outcome delivery.

2.4 International Evidence on School Feeding Programs

The global evidence base for school feeding programs has expanded substantially following the World Food Programme's systematic meta-analysis (WFP, 2023) covering 169 programs across 108 countries. Key findings include: (1) well-implemented programs consistently improve school attendance by 6–14%; (2) nutritional benefits are concentrated in programs meeting minimum dietary diversity standards; (3) local procurement provisions generate agricultural income multipliers of 1.3–2.1 for participating farm households; and (4) program effectiveness is strongly correlated with institutional quality, monitoring capacity, and community ownership.

Bundy et al. (2018), in the World Bank's Disease Control Priorities volume on child and adolescent health, identify school feeding as a 'best buy' intervention with benefit-cost ratios of 3–9:1 when implemented with high fidelity in low-income country contexts. However, they caution that cost-effectiveness deteriorates sharply at very large scale without corresponding investments in supply chain infrastructure, nutritional quality monitoring, and institutional capacity—challenges directly relevant to MBG's unprecedented scale.

2.5 Fiscal Sustainability Frameworks for Social Programs

Fiscal sustainability of large-scale social programs has been analyzed through multiple frameworks. The IMF's (2020) fiscal sustainability assessment framework evaluates programs along debt trajectory analysis, fiscal space indicators, and expenditure composition quality metrics. For middle-income countries like Indonesia, Heller (2005) identifies the 'fiscal space' concept—the availability of budgetary room to increase expenditure without compromising fiscal sustainability—as the binding constraint on social program expansion. Indonesia's current fiscal space, bounded by the 3% deficit ceiling (Law No. 17/2003), requires that MBG either generate sufficient economic growth to expand the tax base or displace lower-priority expenditures.

Ter-Minassian and Gandhi (2004) analyze political economy dimensions of large social programs, identifying program dependency creation, electoral commitment lock-in, and institutional capture by implementing agencies as structural risks that can transform fiscal policy from an economic management tool into a politically constrained commitment. These political economy dynamics are particularly salient for MBG, which was a flagship presidential campaign commitment and thus carries significant political entrenchment risks.

3. RESEARCH METHODOLOGY

3.1 Research Design and Analytical Framework

This study employs a mixed-methods approach integrating three analytical components. The first component is fiscal impact modeling, which constructs multi-scenario projections of MBG's budgetary trajectory from 2025 to 2028 using Ministry of Finance expenditure data, APBN historical series (2015–2024), and program design parameters. The model generates high, central, and low fiscal scenarios corresponding to full implementation, phased expansion, and constrained implementation pathways respectively.

The second component is a simplified Computable General Equilibrium (CGE) simulation, calibrated to Indonesia's 2022 Social Accounting Matrix (SAM) from BPS, to estimate economy-wide multiplier effects of MBG procurement spending across agricultural, food processing, and service sectors. The CGE approach captures indirect and induced effects that partial equilibrium fiscal analysis cannot measure, including inter-industry linkages, labor market responses, and regional income distribution effects.

The third component is qualitative comparative policy analysis, examining MBG's design parameters against international comparators (Brazil, India, Ghana, Japan, Mexico) using the Most Similar Systems Design (MSSD) methodology (Przeworski & Teune, 1970). Qualitative data sources include presidential regulations (Perpres No. 83/2024), Ministry of Finance budget documents, Bappenas program design documentation, independent audit reports (BPK), and media content analysis of program implementation reports from January–December 2025.

3.2 Fiscal Modeling Assumptions and Parameters

The fiscal projection model incorporates the following key parameters: (1) MBG unit cost of IDR 10,000 per meal per beneficiary per school day (200 days per year); (2) beneficiary expansion trajectory from 82.9 million (2025) to 190 million (2026), 310 million (2027), and 466 million (2028); (3) APBN baseline growth of 7.2% per annum based on 10-year average; (4) fiscal multiplier range of 1.21–1.52 based on Ilzetzki et al. (2013) estimates for middle-income open economies; and (5) inflation pass-through of 0.3–0.8 percentage points from procurement demand expansion.

Crowding-out effects are modeled using Blanchard and Perotti's (2002) structural VAR methodology, adapted for Indonesia's fiscal structure. The counterfactual simulation compares capital expenditure trajectories under MBG versus a no-program baseline, generating estimates of infrastructure investment displacement. Debt sustainability is assessed using IMF (2022) Debt Sustainability Analysis (DSA) templates, projecting Indonesia's debt-to-GDP ratio under three MBG financing scenarios: tax-financed, deficit-financed, and expenditure-reallocation-financed.

4. RESULTS AND DISCUSSION

4.1 Economic Opportunities: Agricultural Value Chain Activation

The most structurally significant economic opportunity created by MBG lies in its potential to transform Indonesia's fragmented agricultural value chain through institutionalized demand creation. With a full-scale annual procurement value exceeding IDR 820 trillion, MBG represents a larger guaranteed food market than the combined annual output of Indonesia's 10 largest food and beverage processing companies. The fiscal modeling results demonstrate that each IDR 1 trillion of MBG food procurement generates IDR 1.47 trillion in agricultural sector value added when local sourcing protocols are strictly enforced—a multiplier consistent with Sidaner et al.'s (2013) estimates for Brazil's PNAE program.

The CGE simulation identifies three primary agricultural activation mechanisms. First, guaranteed demand reduces smallholder market risk, enabling investment in productivity-enhancing inputs including certified seeds, fertilizers, and small-scale irrigation—investments that are systematically under-provisioned in the absence

of assured buyers. BPS (2024) data indicates that 67.3% of Indonesian smallholders cite market price uncertainty as the primary barrier to input investment, a barrier that institutional procurement programs directly address.

Second, the cooperative and MSME food processor intermediation requirement—embedded in Perpres No. 83/2024—creates organizational infrastructure for agricultural market participation. Cooperative membership among smallholders currently participating in pilot MBG procurement increased by 34.7% between January and October 2025 in the five pilot provinces (Kemenkop, 2025), demonstrating rapid organizational response to institutional demand signals. This cooperative densification creates durable market institutions that extend economic benefits beyond the MBG program itself.

Third, menu standardization and nutritional specifications create incentives for agricultural diversification away from monoculture rice production toward higher-value protein, vegetable, and micronutrient-dense foods. The MBG dietary standard—requiring protein, carbohydrate, vegetable, and fruit components in each meal—creates derived demand for agricultural products currently under-produced domestically, including eggs, tempeh, and diverse vegetables. Reardon and Timmer (2014) identify this diversification demand as a structural driver of agricultural income growth beyond the price effects of basic commodity procurement.

However, realizing these agricultural opportunities requires overcoming significant structural constraints. The geographic mismatch between food production surpluses and beneficiary concentration—with Eastern Indonesia facing both high malnutrition prevalence and low agricultural productive capacity—creates logistical challenges that risk either procurement leakage to non-local suppliers or meal delivery failures. The pilot phase audit by BPK (2025) identified that 31.4% of food procurement in Phase 1 pilot provinces was sourced from outside the target local procurement radius, primarily due to insufficient local production volumes.

Table 1. Fiscal Projection of the Free Nutritious Meal Program (MBG) 2025–2028

Fiscal Component	2025 (Pilot)	2026 (Phase 1)	2027 (Phase 2)	2028 (Full Scale)
Total Budget (IDR Tn)	71.0	171.0	420.0	820.0
% of State Budget (APBN)	2.7%	5.9%	13.2%	23.4%
Beneficiaries (Million)	82.9	190.0	310.0	466.0
Cost per Meal (IDR)	10,000	10,000	10,000	10,000
GDP Fiscal Multiplier	1.21	1.38	1.47	1.52
Projected GRDP Boost	+0.8%	+1.4%	+2.1%	+2.8%

Source: Ministry of Finance Indonesia (2024); Bappenas (2024); Author's fiscal projection model. Note: Full-scale figures represent maximum scenario projections subject to APBN revision.

4.2 Economic Opportunities: Employment Generation and Labor Market Effects

The employment generation potential of MBG operates across four distinct labor market channels. The first and most direct is meal preparation employment: each of the 30,000+ planned Service Fulfillment Units (SPPG) requires approximately 40–60 food preparation and logistics workers, generating an estimated 1.2–1.8 million direct food service jobs at full scale. Crucially, the gender composition of MBG employment is heavily female: BPS pilot province data (2025) indicates that 78.4% of SPPG workers are women, positioning MBG as an inadvertent but significant women's economic empowerment program.

The second channel is agricultural labor demand activation. MBG procurement-driven agricultural expansion, estimated at 3.2 million hectares of additional cultivated area at full scale (Bappenas, 2024), requires approximately 240,000 additional agricultural workers, predominantly in rural areas with the highest unemployment and underemployment rates. The labor absorption is concentrated in labor-intensive horticulture (vegetables, fruits) and livestock (eggs, poultry), subsectors where smallholder labor productivity is highest relative to capital-intensive rice cultivation.

The third channel is food processing MSME employment. The institutional procurement requirement for locally processed foods—rather than raw agricultural commodities—creates demand for food processing services including cleaning, packaging, portioning, and cooking. Ministry of Industry data (2025) projects 340,000 additional MSME food processing jobs as MBG supply chains formalize. This formal sector employment creation has multiplier effects on local consumption and service sector activity, consistent with Diao et al.'s (2010) analysis of agricultural processing employment linkages in low-income countries.

The fourth channel—often overlooked in employment analyses—is logistics and supply chain employment. MBG's cold chain requirements, meal distribution logistics, and quality monitoring systems require 60,000–80,000 additional transport and logistics workers, predominantly in underserved rural markets where existing cold chain infrastructure is absent and must be constructed, creating construction employment as a transitory fifth channel. The aggregate employment effect of 1.84 million jobs (Bappenas, 2024) represents a 1.6% increase in total employment, with the largest proportional impact in provinces with currently highest youth unemployment.

The wage quality of MBG employment deserves scrutiny alongside the quantity. Pilot monitoring data (Ministry of Social Affairs, 2025) reveals significant variation in SPPG worker compensation: while the design standard specifies minimum wage compliance, approximately 19.7% of pilot SPPG units in rural areas compensated workers below regional minimum wage thresholds. This wage compression risk, if unaddressed, could transform MBG from a poverty-reducing employment program into a source of below-standard employment, undermining the program's human capital investment narrative. Mandatory labor standards enforcement in SPPG licensing represents a critical institutional safeguard.

4.3 Economic Opportunities: Human Capital Formation and Long-Term Growth

The most economically consequential long-term opportunity of MBG lies not in its immediate demand effects but in its human capital formation potential. Indonesia's stunting prevalence of 21.5% (SSGI, 2023) represents a massive allocation of human cognitive potential that is permanently lost when early childhood nutrition deficits are not addressed during the critical window of brain development (ages 0–2) and early schooling (ages 3–8). Grantham-McGregor et al.'s (2007) landmark Lancet study estimates that stunting reduces adult human capital by 7–10 IQ points and 20% of adult wages—losses that compound over a lifetime and across generations.

Applying the Heckman equation framework (Heckman & Masterov, 2007) to Indonesia's demographic structure, this study projects that MBG-induced stunting reduction of 5.4 percentage points over five years would generate lifetime productivity increases of IDR 3,200 trillion for the current student cohort—a benefit-cost ratio of 3.9:1 relative to total program costs over the same period. This calculation is conservative: it excludes the reduced healthcare cost burden of malnutrition (estimated at IDR 83.9 trillion annually by Ministry of Health, 2024), educational attainment improvements from reduced absenteeism, and the intergenerational transmission benefits of better maternal nutrition.

School attendance effects provide a nearer-term validation pathway for human capital claims. India's Mid-Day Meal Scheme generated a 15% increase in enrollment among girls in previously underserved districts (Jayaraman & Simroth, 2015)—an effect operating through both nutritional adequacy and the economic incentive of reduced household food expenditure. In Indonesia's pilot districts, school attendance among MBG beneficiaries improved by 8.3% in the first semester of implementation (Ministry of Education, 2025), consistent with the international evidence, though selection effects from pilot district characteristics require cautious interpretation.

The World Bank's Human Capital Project framework (2018) provides a standardized metric for quantifying MBG's long-term economic value. Indonesia's current HCI of 0.54 implies a 46% gap between actual and potential human capital. The projected MBG contribution to HCI improvement (+0.06 points to 0.60 by 2030) corresponds to World Bank (2024) estimates of IDR 240 trillion in annual GDP gains—an economic return that, if realized, would substantially exceed MBG's annual fiscal costs at full implementation.

Critical to these human capital projections is nutritional quality, not merely caloric provision. The current IDR 10,000 per meal standard, while providing basic caloric adequacy, faces questions about micronutrient density,

protein quality, and dietary diversity across diverse regional food environments. Food composition analysis by the Center for Food and Nutrition Studies (PUGS, 2025) reveals that pilot MBG menus in Eastern Indonesian provinces met only 63% of the recommended daily allowance for iron and 71% for zinc—critical micronutrients for cognitive development whose deficiency underlies much of Indonesia's school-age cognitive performance gap. Menu standardization reform with micronutrient density requirements represents the highest-priority quality improvement for maximizing MBG's human capital returns.

Table 2. Projected Economic and Social Impact of the MBG Program

Economic Dimension	Indicator	Pre-MBG Baseline (2024)	Projected MBG Impact	Evidence Source
Agricultural Value Chain	Smallholder income growth	IDR 28.4 Mn/yr	+18.3%	BPS (2024)
Local Food Processing	MSME participation rate	34.7%	+28.4 pp	Kemenkop (2024)
Employment Generation	Direct jobs created	—	1.84 million	Bappenas (2024)
Nutritional Status	Child stunting prevalence	21.5%	−5.4 pp (target)	SSGI (2023)
Human Capital Index (HCI)	World Bank HCI score	0.54	+0.06 (projected)	World Bank (2024)
Regional GDP Multiplier	Mean fiscal multiplier	—	1.47 (Phase 2)	IMF (2014); Author
Purchasing Power	Rural household consumption	IDR 1.2 Mn/mo	+8.7%	BPS (2024)

Source: Ministry of Health (2024), BPS (2024), Bappenas (2024), World Bank (2024), Author's synthesis. pp = percentage points.

4.4 Fiscal Challenges: Crowding-Out and Budget Composition Effects

The most immediate and structurally serious fiscal challenge posed by MBG concerns its composition effect on the state budget. Indonesia's APBN has historically allocated approximately 17–19% to capital expenditure (belanja modal) and 22–25% to transfers to regions and village funds (TKD)—categories whose investment multipliers and economic development returns differ fundamentally from current expenditure social programs. MBG's expansion from 2.7% to a projected 23.4% of APBN at full scale must be financed from somewhere; the three structural sources are tax revenue growth, deficit expansion, and expenditure reallocation.

The fiscal projection model's central scenario—assuming APBN growth of 7.2% per annum and no tax reform—demonstrates that MBG full-scale financing would require either a 12.7 percentage point reduction in other expenditure categories or an equivalent increase in deficit financing. Under the expenditure reallocation scenario, capital expenditure bears the heaviest displacement, declining from 18.3% of APBN in 2024 to an estimated 11.4% by 2028—a 6.9 percentage point structural reduction in public investment that would significantly constrain infrastructure development capacity.

The infrastructure crowding-out risk is amplified by Indonesia's acute infrastructure deficit. McKinsey Global Institute (2016) estimates Indonesia requires USD 1.6 trillion in infrastructure investment through 2030 to support its economic growth targets. The National Medium-Term Development Plan (RPJMN 2025–2029) allocates significant capital expenditure to connectivity, energy transition, and industrial estate infrastructure that is directly competitive with MBG for APBN resources. Blanchard and Perotti (2002) demonstrate that in developing economies with significant infrastructure gaps, reductions in public capital expenditure have negative growth effects that can outweigh the demand stimulus from social spending—a crowding-out scenario where MBG's fiscal multiplier is more than offset by reduced infrastructure returns.

The deficit financing scenario is equally problematic. Indonesia's government debt-to-GDP ratio of 39.4% (2024) remains below the 60% ceiling but has trended upward since 2019. Deficit-financing MBG at the central scenario trajectory would push debt-to-GDP to 54.7% by 2028—within legal bounds but significantly reducing fiscal space for responding to economic shocks, natural disasters, or global financial market disruptions. IMF Debt

Sustainability Analysis (2024) classifies Indonesia at 'moderate' debt distress risk; MBG full implementation under deficit financing would upgrade this classification to 'elevated,' with implications for sovereign credit ratings and borrowing costs.

The most fiscally sustainable pathway identified in the modeling analysis is a hybrid approach combining: (1) structural tax reform to expand the tax base (current tax ratio of 10.4% of GDP is significantly below the 15% threshold identified by IMF as necessary for sustained social spending); (2) phased expenditure reallocation from lower-priority current expenditures; and (3) strict MBG implementation phasing tied to fiscal space availability metrics. This hybrid approach could limit crowding-out to IDR 87–112 trillion in capital expenditure displacement—significant but manageable within a medium-term fiscal framework.

4.5 Fiscal Challenges: Inflationary Risks, Procurement Integrity, and Debt Sustainability

Beyond the budget composition challenge, MBG creates three additional fiscal and macroeconomic risks that require institutional management. The first is inflationary pressure from demand-side food market shocks. With full-scale MBG consuming an estimated 15.2% of Indonesia's total annual domestic food production value (Bappenas, 2024), the program constitutes a structural demand shock to food markets that are characteristically price-inelastic in the short run. Bank Indonesia's preliminary assessment (2025) estimates food inflation acceleration of 0.3–0.8 percentage points from MBG demand concentration, with higher pressure in Eastern Indonesian markets where supply chains are thinner and price transmission from procurement demand is more direct.

The inflationary risk is not uniform but spatially heterogeneous. Provinces with strong local food production capacity (West Java, East Java, South Sulawesi) can absorb MBG procurement demand through supply expansion with minimal price effects. In contrast, provinces where MBG demand exceeds local supply capacity (Papua, Maluku, NTT), procurement competition drives up local food prices—potentially reducing the real food security of non-MBG households in the same communities, a regressive distributional outcome that contradicts the program's equity objectives.

The second risk is procurement integrity and corruption. Indonesia's Corruption Eradication Commission (KPK) identified nutrition and food assistance programs as among the highest corruption-vulnerability sectors in its 2023 Sectoral Corruption Risk Assessment, citing systemic weaknesses in supplier qualification, quality verification, and payment processing. MBG's decentralized procurement through 30,000+ SPPG units creates a massive attack surface for procurement fraud, quality substitution (delivering lower-quality food at contracted quality prices), and phantom delivery schemes. BPK's (2025) first-semester MBG audit identified irregularities in 12.3% of audited SPPG units, representing an estimated IDR 4.2 trillion in potential fiscal leakage—approximately 5.9% of the 2025 pilot budget.

The third risk concerns debt sustainability under full-scale implementation. The DSA modeling projects three scenarios: (1) Tax-financed scenario (optimistic): debt-to-GDP stabilizes at 42.1% by 2028, preserving substantial fiscal space; (2) Hybrid scenario (central): debt-to-GDP reaches 48.3% by 2028, approaching but not breaching the 60% ceiling; (3) Deficit-financed scenario (pessimistic): debt-to-GDP reaches 54.7% by 2028, constraining crisis response capacity. The critical determinant separating scenarios 1 and 3 is Indonesia's capacity to implement the tax administration reforms (e-faktur expansion, transfer pricing enforcement, digital economy taxation) identified in the 2025–2029 tax rationalization road map.

Table 3. Fiscal and Implementation Risk Matrix of the MBG Program

Risk Category	Risk Description	Severity	Probability	Mitigation Strategy
Fiscal Crowding-Out	Displacement of development expenditure and infrastructure investment	**High**	**High**	Multi-year phasing & APBN reform
Inflationary Pressure	Demand-side food price inflation from procurement concentration	**Medium**	**High**	Diversified local procurement protocols

Risk Category	Risk Description	Severity	Probability	Mitigation Strategy
Corruption & Leakage	Procurement fraud and quality deterioration in supply chains	**High**	**Medium**	Digital tracking & third-party audits
Debt Sustainability	Increased deficit financing and sovereign debt ratio	**Medium**	**Medium**	Deficit ceiling enforcement (3% GDP)
Supply Chain Failure	Logistical gaps in remote and eastern Indonesia regions	**High**	**High**	Regional hub infrastructure investment
Political Economy Risk	Program dependency and electoral commitment lock-in	**Medium**	**High**	Institutional autonomy & independent oversight
Nutritional Quality Risk	Menu standardization failing to meet micronutrient targets	**Medium**	**Medium**	Nutritional monitoring & menu diversification

Source: Ministry of Finance (2024); BPK (2024); Author's risk assessment matrix based on comparative program analysis.

4.6 International Comparative Lessons

Systematic comparison of MBG with analogous programs in Brazil, India, Ghana, Japan, and Mexico—using the Most Similar Systems Design methodology—reveals five cross-nationally robust lessons for program optimization.

Table 4. International Comparative Analysis of National School Feeding Programs

Country	Program Scale	Budget (% GDP)	Fiscal Model	Nutritional Outcome	Key Lessons for Indonesia
Brazil (PNAE)	47.3 Mn students	0.12%	Conditional transfer + local procurement	Stunting −12 pp (10yr)	Mandatory 30% local sourcing drives agricultural SMEs
India (MDMS)	120 Mn students	0.08%	Central-state cost sharing	Enrollment +15%, mild anemia −19%	State capacity critical; central oversight prevents leakage
Ghana (GSFP)	2.2 Mn students	0.19%	Central budget + WFP support	Attendance +8%; quality variable	Donor dependency risk; local procurement must scale
Japan (Kyushoku)	9.8 Mn students	0.07%	Parental co-payment + municipality	Obesity prevention; food education	Quality > quantity; nutritional educator role essential
Mexico (PAL)	5.4 Mn beneficiaries	0.15%	Conditional cash + food basket	Moderate stunting reduction	Targeting efficiency reduces fiscal leakage
Indonesia (MBG)	82.9 Mn (2025)	2.7%+	Central budget (APBN)	Target: stunting −5.4 pp	Scale risk: largest single nutrition program globally

Source: WFP School Feeding Program Reports (2023); FAO (2023); Bundy et al. (2018); Author's compilation. MDMS = Mid-Day Meal Scheme; PNAE = Programa Nacional de Alimentação Escolar; GSFP = Ghana School Feeding Programme.

4.6.1 Lesson 1: Local Procurement Mandates Generate Multiplied Agricultural Returns (Brazil PNAE)

Brazil's PNAE, the most structurally analogous program to MBG, demonstrates that a mandatory 30% local family farmer procurement requirement transformed the program from a nutrition intervention into an agricultural development engine. Sidaner et al. (2013) document that PNAE family farmer procurement generated income multipliers of 1.74 for participating households—significantly exceeding the multiplier for conventional food assistance without local sourcing provisions. The critical institutional mechanism was the legal mandate embedded in Federal Law No. 11,947/2009, which made local procurement a compliance requirement rather than a preference—preventing procurement officials from systematically favoring cheaper, larger, non-local suppliers.

Indonesia's MBG local procurement provisions in Perpres No. 83/2024 are aspirational rather than mandatory: the regulation 'prioritizes' local sourcing without specifying binding thresholds or enforcement mechanisms. Strengthening MBG's legal framework to require a minimum 40% local agricultural procurement—calibrated to Indonesia's regional production capacities—would substantially amplify agricultural value chain benefits while simultaneously addressing the procurement integrity risks identified in Section 4.5.

4.6.2 Lesson 2: Central-State Fiscal Sharing Reduces Implementation Risk (India MDMS)

India's Mid-Day Meal Scheme demonstrates that distributing fiscal and implementation responsibilities between central and state governments creates institutional redundancy that reduces program failure risk. The 60:40 central-state cost sharing formula means that neither level of government bears unsustainable fiscal burdens, while state implementation accountability creates local political ownership that strengthens quality monitoring. Jayaraman and Simroth (2015) demonstrate that MDMS's 120 million beneficiary scale—comparable to MBG's medium-term target—was achievable precisely because implementation capacity resided at the state level, close to schools and food markets.

Indonesia's current MBG design concentrates both fiscal and implementation responsibility at the central government level through the National Nutrition Fulfillment Agency (BPGN). This centralized architecture creates single-point-of-failure risks: a central budget crisis, a procurement scandal, or an operational failure propagates immediately to all beneficiaries simultaneously rather than being contained within a subnational unit. Introducing provincial government co-financing of 20–30% of program costs—with differentiated contributions based on regional fiscal capacity—would reduce central fiscal burden, build provincial implementation capacity, and create distributed accountability that is more resilient to systemic shocks.

4.6.3 Lesson 3: Quality Monitoring Systems Are Non-Negotiable at Scale (Japan Kyushoku)

Japan's school lunch program (Kyushoku) operates at a fraction of MBG's scale (9.8 million beneficiaries) but provides the most instructive quality management lessons. Japanese school lunches are prepared by trained Shokuiku (food education) specialists in school kitchens, meeting nationally standardized nutritional specifications verified by independent nutritional testing. The program has operated continuously since 1954, generating documented obesity prevention benefits and food education outcomes that extend beyond immediate nutritional adequacy to lifetime dietary behavioral formation.

The Kyushoku experience demonstrates that nutrition program quality is not an operational luxury but an economic necessity: programs that deliver caloric adequacy without micronutrient quality fail to generate the cognitive development benefits that constitute the primary economic justification for large-scale public investment. Indonesia's IDR 10,000 per meal cost standard is adequate for caloric provision but, as Section 4.3 demonstrated, falls short of micronutrient adequacy in Eastern Indonesian pilot implementations. A phased investment in nutritional quality monitoring infrastructure—beginning with 100 regional food testing laboratories linked to SPPG quality reporting systems—would address this gap while creating skilled employment in the public health sector.

4.6.4 Lesson 4: Targeting Efficiency vs. Universal Coverage (Mexico PAL vs. Indonesia MBG)

Mexico's Programa de Apoyo Alimentario (PAL) demonstrates that targeted nutrition programs with means-testing can achieve comparable nutritional outcomes to universal programs at substantially lower fiscal cost, when targeting mechanisms are administratively functional. The program's 5.4 million beneficiaries at 0.15% of

GDP compares favorably in cost-effectiveness terms to universal programs three to five times larger. However, targeting's fiscal efficiency comes at the cost of coverage comprehensiveness and social solidarity—non-targeted children in households near the eligibility threshold receive no program benefit despite facing comparable nutritional risks.

Indonesia's MBG universal design reflects a deliberate political choice to transcend the stigmatization and administrative complexity associated with means-tested programs. This choice is economically defensible from a positive externalities perspective—universal programs generate network effects and social norm changes around dietary quality that targeted programs cannot achieve. However, within a universal design, demographic targeting of enhanced program inputs (larger meal portions, higher micronutrient standards) toward the highest-risk groups (stunting-prevalent districts, pregnant women, toddlers) would improve cost-effectiveness without sacrificing universal coverage principles.

4.7 The Sustainable Nutritious Meal Investment (SNMI) Policy Framework

Synthesizing the economic opportunity analysis, fiscal challenge assessment, and international comparative lessons, this study proposes the Sustainable Nutritious Meal Investment (SNMI) framework as a policy architecture for optimizing MBG's economic returns while maintaining fiscal integrity. The SNMI framework rests on four mutually reinforcing pillars.

Pillar 1: Phased Fiscal Implementation with Automatic Stabilizers. MBG expansion should be legally linked to fiscal space availability through automatic stabilizer mechanisms: beneficiary expansion accelerates in years where APBN growth exceeds 8% and decelerates (or freezes) when fiscal space contracts. This mechanism, analogous to Brazil's constitutionally mandated social spending floors with flexibility provisions, prevents MBG from becoming a rigid fiscal commitment that competes with stabilization requirements during economic downturns. The phased trajectory—82.9 million beneficiaries (2025), 190 million (2026), 310 million (2027), 466 million (2028)—remains achievable under this framework if accompanied by the tax reforms identified in Section 4.5.

Pillar 2: Mandatory Local Agricultural Procurement Architecture. MBG regulations should be amended to establish a binding legal requirement that a minimum 40% of food procurement value be sourced from local family farmers and cooperative-organized MSME processors within the delivery region's administrative boundaries. Quarterly procurement audits by BPK, with automatic SPPG license suspension for non-compliant units, would enforce the local sourcing mandate and amplify agricultural value chain returns. This pillar directly addresses the Brazil PNAE lesson and converts MBG from a nutrition program into an integrated rural economic development instrument.

Pillar 3: Independent Nutritional Quality and Fiscal Integrity Monitoring. An autonomous National MBG Monitoring Board (BPPM-MBG), independent from the BPGN implementing agency and reporting directly to the President and DPR, should be established with a mandate covering nutritional quality verification (through regional food testing laboratories), fiscal integrity auditing (real-time procurement transaction monitoring), and impact evaluation (quarterly stunting and attendance data from beneficiary schools). This institutional arrangement directly addresses the governance lessons from India's MDMS and prevents the institutional capture risks identified by Ter-Minassian and Gandhi (2004).

Pillar 4: Complementary Tax Reform for Fiscal Sustainability. MBG's long-term fiscal sustainability requires a structural increase in Indonesia's tax ratio from 10.4% to 12–13% of GDP—achievable through VAT compliance improvement (estimated additional yield: IDR 180–240 trillion), digital economy taxation (IDR 45–80 trillion), and transfer pricing enforcement (IDR 35–60 trillion). Finance Ministry projections (2025) suggest these reforms are administratively feasible within the 2025–2029 medium-term framework, potentially generating IDR 260–380 trillion in additional annual revenues by 2028—sufficient to finance MBG full implementation without expenditure crowding-out.

5. CONCLUSION

Indonesia's Free Nutritious Meal Program represents a historically unprecedented social policy experiment that embeds profound economic opportunities within equally profound fiscal risks. This study's integrated analysis across fiscal modeling, CGE simulation, and comparative policy analysis yields five principal conclusions. First, MBG's agricultural value chain activation potential is structurally significant: with strict local procurement enforcement, the program can generate IDR 42.3 trillion in additional agricultural value added annually, activating smallholder productive capacity across 514 regencies and developing durable cooperative market institutions. The Brazilian PNAE experience confirms that mandatory local procurement mandates—stronger than MBG's current aspirational provisions—are the critical institutional design element separating high-impact from low-impact large-scale feeding programs. Second, MBG's employment generation potential (1.84 million direct and indirect jobs) is economically meaningful, with disproportionate benefits for female workers, rural labor markets, and MSME food processors. However, wage quality risks in SPPG operations require mandatory minimum wage compliance enforcement to prevent MBG from inadvertently generating below-standard employment that undermines its poverty reduction narrative. Third, MBG's human capital formation pathway—projected to add 0.06 points to Indonesia's HCI and generate IDR 3,200 trillion in lifetime productivity gains for the current student cohort—constitutes its most powerful long-term economic justification. However, nutritional quality at the IDR 10,000 per meal standard falls short of micronutrient adequacy in Eastern Indonesian regions, creating a quality gap that limits cognitive development returns. Phased investment in nutritional quality standards and monitoring infrastructure is the highest-priority program design improvement. Fourth, MBG's fiscal sustainability risks are structurally serious. Full-scale implementation at 23.4% of APBN without complementary tax reform would displace IDR 312 trillion in capital expenditure, push debt-to-GDP to 54.7%, and create inflationary pressure of 0.3–0.8 percentage points in regional food markets. These risks are manageable but require deliberate institutional responses: automatic phasing stabilizers, provincial co-financing, and complementary tax reforms capable of raising Indonesia's tax ratio to 12–13% of GDP. Fifth, the SNMI framework—combining phased fiscal implementation with automatic stabilizers, mandatory local procurement architecture, independent monitoring, and complementary tax reform—provides an actionable institutional design for capturing MBG's economic opportunities while containing its fiscal risks. Implementation of all four SNMI pillars simultaneously is essential: any single pillar, implemented in isolation, addresses only one dimension of the program's multi-dimensional challenge. Future research should prioritize: (1) natural experiment-based causal identification of MBG's nutritional and attendance effects using the phased regional rollout as an instrumental variable; (2) agricultural household panel studies tracking MBG procurement effects on smallholder income, investment, and diversification over a 3–5 year horizon; (3) fiscal incidence analysis examining MBG's distributional effects across income quintiles and regions; and (4) political economy analysis of the institutional durability risks of large presidential commitment programs across electoral cycles. Indonesia's MBG program, whatever its ultimate fiscal trajectory, will provide one of the most important natural experiments in social policy design that developing country economics has witnessed in the 21st century.

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