NORTH-WEST UNIVERSITY — VAAL TRIANGLE (VANDERBIJLPARK) CAMPUS

FACULTY OF NATURAL AND AGRICULTURAL SCIENCES / NATIONAL ESSAY COMPETITION

RECONCILING ACCESS, AFFORDABILITY AND FISCAL SUSTAINABILITY: A SHARED RESPONSIBILITY STUDENT-FINANCING MODEL (SSRSFM) FOR SOUTH AFRICAN HIGHER EDUCATION

An Integrated Policy Proposal, Macroeconomic Diagnostic and International Comparative Analysis

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DECLARATION OF ORIGINALITY

I, **Iviwe Lasini** (Student Number: 56239734 / Blind Entry #1118), registered in the Faculty of Natural and Agricultural Sciences at North-West University (Vanderbijlpark Campus), hereby declare that this academic essay titled *"Reconciling Access, Affordability and Fiscal Sustainability: A Shared Responsibility Student-Financing Model (SSRSFM) for South African Higher Education"* is my own original work. All primary data, secondary literature, macro-economic statistics and policy reports referenced herein have been cited in accordance with the North-West University (NWU) Harvard referencing standard.

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1. INTRODUCTION: THE DUAL MANDATE OF ACCESS AND PUBLIC INVESTMENT

Higher education is both a crucial public investment in human capital and the principal mechanism through which individuals in developing nations improve their socio-economic outcomes. In South Africa, however, the rising cost of university study creates simultaneous fiscal pressures on household budgets and the national treasury (**Bhorat et al., 2021:14**). A financing system that relies entirely on non-repayable government grants risks severe fiscal expansion that outpaces sovereign revenue growth. Conversely, a system reliant purely on commercial market credit transfers unmanageable debt risks to vulnerable students who may graduate into low-wage employment or structural joblessness.

The core policy dilemma facing the South African state is not simply increasing public expenditure, but establishing a framework that distributes higher education costs equitably. Such a model must safeguard access for severely impoverished households, accommodate lower-middle income families and ensure public allocations deliver long-term socio-economic returns. This essay advocates for a structural reform known as the **Shared Responsibility Student-Financing Model (SSRSFM)**. This policy framework combines targeted non-repayable grants, income-contingent loans (ICLs) and progressive family contributions to create a self-sustaining revolving fund.

2. MACROECONOMIC DIAGNOSTICS: ACCESS, AFFORDABILITY AND INSTITUTIONAL EXPOSURE

The purpose of student financing extends beyond settling annual tuition fees. A complete funding package must encompass necessary living costs, including safe accommodation, nutritious food, daily transport, study materials, digital connectivity and assistive devices. If a policy framework covers academic tuition but fails to cover essential living expenses, formal access is granted while meaningful participation remains out of reach.

The University of the Free State's discussion on sustainable student funding emphasized that student retention and academic success depend directly on whether students can live and learn with dignity (**University of the Free State, 2025**). When basic nutritional and housing needs are unmet, first-year academic dropouts increase, undermining the social return on state higher education spending.

Equally critical is the financial stability of public higher education institutions. South African universities rely on a balanced mix of direct state subsidies, tuition fees and third-stream income generated through contract research, commercialization and philanthropy. As highlighted during the UFS panel discussion, third-stream revenue is frequently ring-fenced for designated research projects or donor initiatives and cannot automatically offset operational shortfalls in basic tuition and residential fees (**University of the Free State, 2025**). When public funding disbursements face administrative delays or budget cutbacks, public universities experience cash flow vulnerabilities that threaten academic salaries, infrastructure maintenance and essential utility services.

This institutional vulnerability is exacerbated by the dilemma of the **"missing middle"**: households earning between R350,001 and R600,000 annually. These families exceed the threshold for full grant funding under the National Student Financial Aid Scheme (NSFAS), yet lack the discretionary capital or collateral required to secure commercial credit (**Van der Berg & Gustafsson, 2022:108**). This dynamic excludes hundreds of thousands of qualifying matriculants, perpetuating inequality in skilled labor participation.

As **Salmi and Hauptman (2006:12)** observe, tertiary financing mechanisms must be evaluated across three criteria: equitable access, internal unit efficiency with cost containment and quality of educational output. Fiscal sustainability should not mean cutting state allocations until the national budget balances; rather, it requires deploying public resources to maximize student throughput, protect low-income scholars and mandate fair contributions based on post-graduation earning capacity.

3. EMPIRICAL TRENDS IN NSFAS TRANSFERS AND FISCAL VULNERABILITY

To evaluate the sustainability of South Africa's higher education expenditure, we must examine the growth trajectory of NSFAS public transfers. Following the 2017 policy declaration establishing fully subsidized higher education for students from households earning up to R350,000 annually, NSFAS funding expanded rapidly.

Financial Year	NSFAS Budget (R Billions)	Supported Beneficiaries	State Tertiary Spend (% GDP)	University Completion Rate (%)
2017/18	R 15.4	360,000	0.68%	52.1%
2019/20	R 34.7	645,000	0.89%	53.8%
2021/22	R 43.1	755,000	0.94%	54.2%
2023/24	R 50.8	910,000	0.98%	55.0%
2025/26 (Proj.)	R 56.2	1,020,000	1.02%	56.1%

The empirical data shows that while beneficiary headcount expanded nearly threefold between 2017 and 2025, systemic completion rates improved only marginally, rising from 52.1% to 56.1% (**DHET, 2023:44**). Department of Higher Education and Training cohort tracking reveals that approximately 38% of undergraduate students drop out within their first three years of study. This high dropout rate creates fiscal leakage, as state resources spent on non-completing students yield limited labor market benefits.

Furthermore, funding a fully grant-based system for a growing student population within a constrained fiscal environment—where national gross debt exceeds 74% of GDP—forces difficult spending trade-offs (**National Treasury, 2024:12**). Public allocations to university infrastructure, research facilities and academic staffing have faced real-term squeezes, threatening the global competitiveness of South African institutions.

4. LESSONS FROM INTERNATIONAL EXPERIENCE: A COMPARATIVE SYNTHESIS

International approaches to student financing offer key insights into how higher education systems balance fiscal limits with broad socio-economic access. However, foreign policy frameworks must be adapted to South Africa's specific labor market structures, tax capacity and income inequality dynamics.

4.1 Australia: Income-Contingent Loans (HECS-HELP)

Australia's Higher Education Contribution Scheme (HECS-HELP) offers a leading model for income-contingent repayment. Under HECS-HELP, the state pays tuition fees directly to universities on behalf of students. Graduates repay their tuition debt through the national tax system once their taxable annual income reaches a specified threshold ($54,435 AUD in 2024/25) (**Chapman, 2016:88**). Repayment rates scale progressively from 1% to 10% of gross income. Because repayments are handled automatically by the Australian Taxation Office (ATO), default rates remain low. This allows Australia to recover funding while ensuring tuition costs do not prevent university entry.

4.2 Germany and Norway: Public Financing and Grant Traditions

European models demonstrate the role of strong state support. Germany's *BAföG* framework provides a combination of non-repayable grants and interest-free loans based on parent income testing. Norway provides fully state-funded tuition at public universities, paired with state-backed student loans for living costs managed by the Norwegian State Educational Loan Fund (*Lånekassen*). These systems safeguard equity of access across social classes. However, replicating high-income European models in South Africa is unfeasible due to narrow tax bases, lower per-capita national income and competing public expenditure needs in healthcare, basic education and social grants.

4.3 United Kingdom and Chile: Market Reforms and Policy Trade-offs

The United Kingdom replaced direct university grants with higher tuition caps supported by government-funded income-contingent loans (**Barr, 2019:201**). However, unrecovered loan debt—cancelled after 30 to 40 years—created long-term state liabilities, illustrating the importance of setting accurate repayment thresholds. In Chile, heavy reliance on private commercial loans (CAE) triggered widespread student protests over debt burdens. In response, Chile introduced *Gratuidad* in 2016, offering free tuition to lower-income students (**Salmi, 2020:140**). However, because government fee caps were set below actual university costs, institutions experienced operating deficits, demonstrating the risks of underfunded fee-free mandates.

5. SOUTH AFRICAN POLICY HISTORY AND INSTITUTIONAL REALITIES

South Africa has previously evaluated multi-tiered funding models. The 2010 Ministerial Review Committee on NSFAS recommended a progressive structure that combined fully subsidized grants for impoverished students with income-contingent loans for middle-income groups (**NSFAS Ministerial Review Committee, 2010:107**). The committee emphasized that loan repayments should return directly to a revolving fund dedicated to supporting future cohorts—a core principle for long-term fiscal balance.

The 2010 Review also highlighted administrative weaknesses that limited NSFAS's initial recovery operations. Low historical loan recovery rates (<5%) were driven by manual tracking processes, incomplete income verification, outdated institutional IT infrastructure and a lack of integration with tax records (**NSFAS Ministerial Review Committee, 2010:20-21**). These historical challenges underline that policy design depends on operational capacity, data integrity and inter-agency collaboration.

The report further cautioned against relying on commercial lenders to address the missing middle. Private banks operate on risk-based pricing, requiring parental guarantees, high fixed interest rates and short repayment terms. Concessional income-contingent loans, by contrast, adjust repayments relative to graduate earnings, providing a essential safety net during periods of economic hardship (**NSFAS Ministerial Review Committee, 2010:27**).

Recent insights from higher education leadership reinforce these historical lessons. Panel discussions at the University of the Free State (**UFS, 2025**) highlighted the risks universities face when reliant on centralized bursary disbursements. Panelists recommended exploring tax-based collection mechanisms managed by the South African Revenue Service (SARS) to automate graduate loan repayments. Establishing a seamless link between university graduation registries, employer PAYE systems and SARS income tracking provides a reliable foundation for sustainable income-contingent lending in South Africa.

6. PROPOSED SOLUTION: THE SHARED RESPONSIBILITY STUDENT-FINANCING MODEL (SSRSFM)

To resolve the tension between expanding access and maintaining fiscal balance, this paper proposes the **Shared Responsibility Student-Financing Model (SSRSFM)**. This policy framework establishes three distinct funding pathways determined by verified household income, family size, dependants and regional study costs.

Funding Pathway	Annual Household Income	Funding Package Allocation	Repayment Structure & Mechanism
Pathway 1: Full Grant	R 0 – R 180,000	100% Non-Repayable Social Grant (Tuition + Full Living Support)	Zero Repayment Obligation; Fully State Subsidized
Pathway 2: Missing Middle ICL	R 180,001 – R 350,000	70% Non-Repayable Grant / 30% Income-Contingent Loan	SARS PAYE Automated Collection (> R120,000 threshold)
Pathway 3: Hybrid Loan	R 350,001 – R 600,000	20% Grant / 80% State-Guaranteed Concessional Loan	SARS PAYE Tiered Repayment (3% – 7% of gross income)
Pathway 4: Family Contribution	> R 600,000	Expected Family Contribution / Regulated Commercial Credit	Standard Commercial Credit Terms (No direct state subsidy)

6.1 Standardized Cost-of-Attendance (COA) Calculation

Financial allocations under the SSRSFM are calculated based on a comprehensive Cost-of-Attendance (COA) framework rather than standard tuition fee coverage. The COA includes tuition, prescribed books, digital hardware, food, transport and regional housing allowances.

Because living expenses vary significantly across geographic regions—such as between urban metropolitan centers and rural campus environments—the Department of Higher Education and Training (DHET) should conduct an annual National Study Cost Survey. Cost guidelines, such as those published by the Wits International Students Office for regional living expenses in Johannesburg, illustrate how accommodation, food, transport and study materials accumulate (**Wits University, 2024**). These empirical benchmarks will inform regional funding caps, ensuring disbursements reflect real living costs without inflating public expenditure.

6.2 Income-Contingent Repayment Mechanics

Loans issued under Pathways 2 and 3 operate on strict income-contingent principles. Repayments begin only when a graduate's annual income exceeds the statutory threshold of **R120,000 per annum**. Repayments are calculated as a percentage of income above this threshold, rather than fixed monthly obligations.

For example, a graduate earning R180,000 annually pays 5% on the R60,000 margin above the R120,000 threshold, equaling R3,000 per year (R250 monthly). If earnings fall below the threshold due to unemployment, postgraduate study or health challenges, repayments pause automatically without accumulating punitive interest or default penalties.

7. ILLUSTRATIVE COHORT ALLOCATION, FISCAL CALCULATIONS AND SENSITIVITY ANALYSIS

To illustrate the financial dynamics of the SSRSFM, consider a planning scenario involving a hypothetical entering cohort of 100,000 undergraduate students. This scenario uses modeled estimates to demonstrate cost allocation across pathways and evaluate net fiscal impacts under varying loan recovery rates.

Funding Pathway	Student Headcount	Average Support per Student	Total Annual Gross Allocation
Pathway 1: Full Grant Subsidies	50,000	R 60,000	R 3.00 Billion
Pathway 2: Missing Middle ICLs	30,000	R 40,000	R 1.20 Billion
Pathway 3: Partial Grants / Credit Support	20,000	R 20,000	R 0.40 Billion
Total Annual Cohort Outlay	**100,000**	—	**R 4.60 Billion**

Under this model, the initial gross annual expenditure is R4.60 billion, comprising R3.40 billion in direct non-repayable grants and R1.20 billion in income-contingent loans. The net cost to the state depends on the proportion of loan principal recovered over a 15-year post-graduation window. Net principal outlay is calculated using the formula:

$$\text{Net Principal Cost} = \text{Total Grants} + [\ \text{Total Loan Principal} \times (1 - \text{Recovery Rate})\ ]$$

7.1 Recovery Rate Sensitivity Analysis

Evaluating fiscal outcomes across three loan recovery scenarios illustrates the financial impact of collection efficiency:

- **Low Recovery Scenario (40% Recovery):** The state recovers R480 million in principal. Unrecovered principal totals R720 million, bringing the net cohort cost to R4.12 billion.
- **Moderate Recovery Scenario (60% Recovery):** The state recovers R720 million in principal. Unrecovered principal totals R480 million, reducing the net cohort cost to R3.88 billion.
- **High Recovery Scenario (80% Recovery):** Automated SARS PAYE collection yields R960 million in recoveries. Unrecovered principal drops to R240 million, lowering the net cohort cost to R3.64 billion.

Recovered capital is recycled directly into the revolving student-financing fund. Over time, these repayments reduce reliance on new national budget allocations, helping to establish a self-sustaining funding framework for future cohorts.

8. IMPLEMENTATION PLAN, GOVERNANCE RISK MANAGEMENT AND PERSONAL REFLECTION

Implementing the SSRSFM requires a phased, three-stage roadmap to manage administrative transition risks:

- **Phase 1: Inter-Agency Task Force (Months 1–12):** Form a joint technical unit comprising DHET, National Treasury, NSFAS, SARS and university representatives. This team will standardise means-testing rules, integrate databases across Home Affairs and SARS and verify the ICL repayment engine using anonymized earnings data.
- **Phase 2: System Integration & Pilot (Months 13–24):** Launch an integrated digital application platform across six pilot universities, including North-West University. Automated means-testing will verify household income in real time, supported by a formal appeals process to assist families with informal or volatile incomes.
- **Phase 3: Full National Rollout (Months 25–36):** Expand the framework across all 26 public universities and TVET colleges once pilot evaluations confirm timely disbursements, accurate targeting and effective collection tracking.

8.1 Governance and Operational Risk Management

Key implementation risks include graduate unemployment, economic stagnation, data mismatching and political pressure to convert loans into full grants. These risks can be managed by setting realistic recovery expectations, maintaining an emergency reserve fund, establishing statutory write-off policies for permanent disability or death and publishing transparent annual performance audits.

8.2 Personal Analytical Reflection and Economic Synthesis

As a student pursuing a Bachelor of Science in Computer Science and Economics at North-West University (Vanderbijlpark Campus), I view the higher education crisis through an analytical framework that combines economic theory with technological system design. Economics highlights that while university education yields positive social externalities, it also generates substantial private returns—evidenced by a significant graduate wage premium in the South African labor market. Expecting the state to fund all higher education costs through grants alone is macroeconomically unviable given national fiscal constraints (**National Treasury, 2024:12**).

At the same time, from a computer science perspective, administrative failures, fraudulent claims and delayed disbursements stem from fragmented legacy IT systems. Integrating databases across SARS, Home Affairs and public universities through secure APIs can automate household verification and streamline repayments. By pairing sound economic design with reliable administrative systems, South Africa can build an equitable funding framework that protects public resources while expanding educational opportunity.

9. CONCLUSION AND STRATEGIC POLICY RECOMMENDATIONS

Resolving South Africa's higher education financing challenge requires balancing social equity with fiscal sustainability. Grant-only systems face budget constraints, while pure loan models risk burdening graduates with unaffordable debt. The proposed Shared Responsibility Student-Financing Model (SSRSFM) offers a practical synthesis: full grants for high-need students, income-contingent loans for the missing middle and progressive contributions from higher-income households.

Key recommendations for implementing this policy framework include:

1. Establish the three-tiered Shared Responsibility Student-Financing Framework (SSRSFM) via national legislation.
2. Formally authorize SARS to manage income-contingent graduate loan repayments through the PAYE system.
3. Develop a standardized regional Cost-of-Attendance (COA) index updated through annual study cost surveys.
4. Establish a ring-fenced revolving fund where recovered loan capital directly supports future student cohorts.
5. Integrate real-time income verification across SARS, Home Affairs and higher education institutions.
6. Publish comprehensive annual performance reports detailing disbursements, throughput rates and loan recoveries.
7. Pilot and independently evaluate the model across selected institutions prior to full national implementation.

10. REFERENCE LIST (NWU HARVARD STYLE)

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