

Entry #644

Complement First: Building a South African AI Productivity Bargain

Essay question: How should South Africa redesign education, industrial policy and fiscal incentives to harness artificial intelligence for productivity growth while limiting labour market disruptions?

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1. Introduction

South Africa does not get to choose between productivity and jobs. It has too little of both. In the second quarter of 2026 the official unemployment rate rose to 33.6 percent, with 8.5 million people looking for work and not finding it (Stats SA, 2026). Artificial intelligence could lift productivity in services, mining, agriculture and the state. It could also reduce the clerical and contact-centre work that has become one of the few routes into formal employment for young people without degrees.

My argument is that South Africa should adopt AI quickly, but not on any terms. The state should strike what I call a complementarity bargain: public money, procurement preference and tax relief go only to firms and institutions that use AI to make their workers more productive and that train the people they employ. Firms remain free to automate; they should simply not be subsidised to do so. Education, industrial policy and fiscal incentives make this bargain credible only if they are designed together. A skills programme without a demand-side incentive trains people for jobs that never appear, while an incentive without a skills pipeline subsidises firms that then import the talent they need.

The essay first explains why the AI trade-off is sharper in South Africa than in the rich economies that produce most of the evidence. It then assesses the withdrawn 2026 Draft National AI Policy before setting out reforms and their risks.

2. Why the trade-off is sharper here

Task-based models offer an optimistic reading; technology automates some tasks but creates others, and labour's fate depends on whether new work keeps pace with displacement (Acemoglu and Restrepo, 2019). Firm-level evidence supports this in places. In a large customer-support operation, a generative AI assistant raised issues resolved per hour by about 15 percent on average and by around 30 percent for the least experienced agents, because it

spread the know-how of the best workers across the floor (Brynjolfsson, Li and Raymond, 2025).

The cautious reading is that much of what firms adopt is "so-so automation": good enough to replace workers, not good enough to raise productivity much (Acemoglu and Restrepo, 2020). Acemoglu (2025) estimates that AI will add no more than about 0.66 percent to US total factor productivity over a decade. If anything, similar holds here, South Africa cannot count on a growth dividend large enough to pay for displacement after the fact.

Three features of the South African economy make the cautious reading more worrying.

1. The first is who is unemployed. In mid-2026 unemployment stood at 39.2 percent among people without matric, against 12.4 percent for graduates, and at 47.4 percent among the young (Stats SA, 2026). A technology that thins out entry-level work lands hardest on exactly this group.
2. The second is where exposure sits. The ILO's refined index finds clerical occupations the most exposed to generative AI, with women over-represented in the highest-exposure band (Gmyrek et al., 2025). Early evidence from the United States points the same way. Across 285 million job postings, demand for the occupations most open to AI substitution fell by 18 percent relative to less substitutable ones by the third year after ChatGPT's launch, with entry-level roles hit hardest (Liu, Wang and Yu, 2025).
3. The third is the country's most visible recent jobs success. The global business services (GBS) sector, largely offshore customer service, created 26,346 jobs in 2025, about 90 percent of them filled by young people, and targets 500,000 cumulative jobs by 2030 (ITWeb, 2026). Most of that hiring is frontline voice work: industry reporting of BPESA data puts it at around 84 percent of new hires in late 2025 (AI for Business, 2026). That is the work AI reaches first.

The Brynjolfsson result cuts both ways. If AI makes a novice agent as good as a veteran, a South African contact centre becomes more competitive, but it also needs fewer agents per contract. Whether the gain turns into more clients and higher-value services or simply into lower headcount is a policy question, not a technological one.

3. What the 2026 draft policy missed

On 10 April 2026 the Department of Communications and Digital Technologies (DCDT) gazetted the Draft South Africa National AI Policy for comment (DCDT, 2026). Its vision of "AI for inclusive economic growth, job creation, cost reduction, and a developing Africa" sat under six pillars, including talent development, inclusive growth and job creation, responsible governance and human-centred deployment. It proposed a National AI Commission, an ethics board, a regulator, an ombud and an AI insurance superfund modelled on the Road Accident Fund (DLA Piper, 2026).

Within weeks, the Minister withdrew it after fictitious sources were found in its reference list (News24, 2026). A policy that called for vigilant human oversight of AI had not applied that oversight to its own drafting. The episode shows how thin state capacity for AI remains, and any strategy that depends on sophisticated new regulators should take that seriously. The draft's substantive weaknesses, though, matter more than the scandal.

- First, it treated AI mainly as a risk to be governed rather than an economic activity to be shaped and said little about how adoption or local capability would be financed (DLA Piper, 2026). Start-ups, centres of excellence and accelerators matter for a small AI-producing sector. They do little for the millions of existing workers and firms that will use AI.
- Second, it had no real fiscal instruments. It mentioned tax breaks and subsidies without saying what would be supported, on what conditions or at whose expense. With gross debt at 78.9 percent of GDP (National Treasury, 2026), a compensation fund modelled on a chronically insolvent institution is not a credible commitment.
- Third, it sat in a department with little leverage over labour-market outcomes. The skills levy belongs to Higher Education and Training, master plans and investment incentives to the Department of Trade, Industry and Competition (dtic), and tax expenditures to National Treasury. Workers were promised reskilling, but nothing tied that promise to how firms behave. The revised policy should be rebuilt around the economic question, with Treasury and the dtic involved from the start.

4. The organising principle: support complementarity, not substitution

Firms choose how to use AI partly based on relative costs, and the state already shapes those costs. Acemoglu, Manera and Restrepo (2020) show that the US tax code taxes labour far more

heavily than equipment and software, pushing firms towards more automation than is socially efficient. South Africa leans the same way, with generous deductions for capital and R&D on one side and, on the other, a payroll-linked skills levy and a wage subsidy with modest effects.

Government cannot dictate which technologies firms deploy, but it can decide what it pays for. My test is simple. Public support goes to AI projects that raise output per worker while holding or growing headcount, or that pair automation with funded, credentialed transition for the workers affected. Anything else can proceed on private money.

The test also must be simple to administer. It can rest on three measures firms already report: headcount from payroll and UIF records, training spend from the workplace skills plans submitted to SETAs, and turnover from tax returns. A firm qualifies if turnover per worker rises while headcount holds for two years, or if every retrenched worker receives an accredited retraining place. No new data system is needed, because SARS and the SETAs already receive most of this information. That keeps compliance costs low, which matters most for the small firms whose adoption the policy should encourage.

This fits recent industrial policy thinking. Rodrik and Sabel (2022) argue that the state should work with firms on concrete obstacles to good jobs, using conditional support and ongoing monitoring. Korinek and Stiglitz (2021) warn that labour-saving AI could erode the low-wage advantage developing countries rely on, which makes the direction of technical change a development issue. After premature deindustrialisation (Rodrik, 2016), labour-intensive services such as GBS are one of South Africa's few remaining routes to mass employment. That route needs upgrading, not abandoning.

5. Education and skills: fix the foundation, then rebuild the ladder

The first education priority for an AI economy is not AI. It is reading. In PIRLS 2021, 81 percent of South African Grade 4 learners could not read for meaning in any language (University of Pretoria CEA, 2023). Someone who cannot reason through a text cannot check an AI system's output or notice when it is confidently wrong. The withdrawal of the draft policy also illustrates why verification and critical judgement are essential capabilities in an AI-enabled education system.

AI can also help fix this. Structured pedagogy, which combines lesson plans, graded readers and coaching, is among the more promising foundation-phase approaches in South Africa. AI tools in isiZulu, isiXhosa, Sesotho and the other official languages could cut the cost of graded

readers and give teachers faster feedback. The Department of Basic Education should commission and evaluate such tools under open licences rather than leave the field to platforms built for English-speaking classrooms.

The second priority is the entry-level ladder. If AI erodes the routine tasks through which young people used to learn a job, the first rung must be rebuilt deliberately. Employers pay 1 percent of payroll as a skills levy, most of it to the Sector Education and Training Authorities (SETAs), and too much of it funds short courses with weak links to hiring. Part of the levy should be ring-fenced for AI-augmented occupational pathways: work-based qualifications, registered with the Quality Council for Trades and Occupations, that teach a trade alongside the tools now shaping it. Contact-centre agents trained for complex escalations, bookkeepers using AI reconciliation tools and extension officers using AI crop diagnostics are obvious candidates. Providers should be paid on placement and retention at six and twelve months, not on course completion.

Third, the binding constraint on diffusion lies in the middle of the skills distribution: technicians, supervisors and public servants who can put AI to work in ordinary organisations. TVET colleges should add applied data and AI modules to existing programmes in finance, administration, engineering and agriculture rather than launch standalone AI diplomas that few employers recognise. The public service, with more than a million employees, should lead by example, budgeting for staff AI training before procuring AI tools.

6. Industrial policy: steer adoption where output and jobs rise together

South African industrial policy now runs largely through sector master plans agreed by government, business and labour. The AI strategy belongs inside those plans.

GBS is the most urgent case. The aim is to use AI to move up the value chain before contracts move elsewhere. The GBS incentive should reward investment in higher-value work, such as analytics, multilingual support and claims handling, and in AI-assisted models that keep agents in the loop. A firm using AI so its agents handle more complex work for more clients would qualify. A firm that trains a model on local call recordings during the incentive period and then cuts staff would not, and clawback clauses should enforce that.

In agriculture the problem is diffusion, not displacement. Smallholders and emerging farmers lack the weather, pest and market information that AI can supply cheaply. The Industrial

Development Corporation and the Land Bank could co-finance shared services delivered through co-operatives and extension officers, raising productivity without cutting jobs.

In mining, automation will spread as operations go deeper and safety pressures grow. The Mining Charter's skills obligations should require firms that automate hazardous tasks to retrain affected workers for maintenance, monitoring and data roles.

Two enabling conditions apply across sectors. Data costs and unreliable power constrain AI use more than regulation does (DLA Piper, 2026), so spectrum release and open-access fibre under Operation Vulindlela are AI policy in practice. The Competition Commission, for its part, should watch for exclusionary terms in access to data and compute, so that small local firms can build on dominant platforms.

Procurement is the last lever. Tender specifications for AI systems in health, home affairs and municipal services can require local integration partners, skills transfer and staff training plans, creating a domestic market for South African AI firms that accelerators alone cannot.

7. Fiscal incentives: pay for complementarity, and pay for it honestly

Fiscal space is narrow. Gross debt stabilises at 78.9 percent of GDP in 2025/26 and falls only to 76.5 percent by 2028/29 (National Treasury, 2026). New incentives therefore have to be cheap, targeted and funded by reallocation. Four changes fit those limits.

1. First, extend the logic of the R&D incentive to adoption. Section 11D offers a 150 percent deduction for approved R&D until 2033 (SARS, 2025). It rewards invention, which helps the few firms building AI, but not the many that need to fit existing tools into their operations. A capped AI adoption and training allowance could add a deduction for AI integration spending, provided a set share goes on accredited training for existing staff and headcount holds for two years.
2. Second, redesign the Employment Tax Incentive (ETI). Studies using tax data find small or insignificant effects on aggregate youth employment, with some gains in smaller firms (Ranchhod and Finn, 2016; Ebrahim, Leibbrandt and Ranchhod, 2017). Later work finds more low-wage youth entry, but too little to shift overall employment (Ebrahim and Pirttilä, 2025). Much of the subsidy pays for hires that would have happened anyway. A higher rate for young workers placed in AI-augmented pathways, and a lower one for roles firms would fill regardless, would turn the ETI into the demand-side partner of the skills reform.

3. Third, raise the Section 12H learnership allowance for learnerships tied to AI-augmented occupations, paid for by trimming support for those with poor completion and placement records.
4. Fourth, build transition support into existing social insurance. A retraining account for workers retrenched through automation, run through the Unemployment Insurance Fund and usable at accredited providers, would be cheaper and more credible than a new superfund.

The package is also designed to be close to revenue neutral. The skills-levy and learnership changes redirect money employers already pay; the ETI reform shifts spending away from hires that would happen anyway and towards those that would not; and the UIF account draws on contributions already collected. Only the adoption allowance is a genuinely new tax expenditure, and a hard annual cap, set and reviewed by Treasury in each budget, would keep its cost visible. That matters politically as much as fiscally. An AI strategy that asks for large new spending in a debt-constrained budget will not survive its first Medium-Term Budget Policy Statement.

Each instrument needs a sunset clause and an independent evaluation from the start. The ETI shows how an incentive can run for a decade on thin evidence, and AI will change faster than the tax code.

8. Risks, labour institutions and trade-offs

The biggest risk is that conditions slow adoption. If the rules are burdensome, firms will adopt AI without public support or serve South African clients from abroad. Conditions must therefore stay few and measurable, unsubsidised automation must remain legal, and there should be no robot tax, which would mainly push investment offshore.

The second risk is capture, with firms relabelling ordinary spending as AI training. Monitoring of the kind Rodrik and Sabel (2022) describe is the answer, but SARS, the dtic and the SETAs do not all have the capacity for it. That is another reason to build on existing instruments, and to invest in public-sector skills before the state buys AI tools it cannot oversee.

Some contact-centre and clerical jobs will still go, and here too South Africa need not invent a separate regime. When AI adoption leads an employer to contemplate dismissals for operational requirements, section 189 of the Labour Relations Act already requires consultation on ways to avoid or minimise dismissals and to soften their effects, and the CCMA facilitates

larger retrenchments under section 189A (Republic of South Africa, 1995). The gap is not labour law but the missing link between technology investment, consultation and retraining. Firms receiving public support for AI adoption should disclose expected workforce effects and show that redeployment and training were considered before retrenchment, with retraining funded through the SETA and UIF instruments above. At national level, NEDLAC is the natural forum for government, business and labour to agree principles for large-scale technological restructuring. The aim is not to freeze the labour market but to make sure that when AI raises productivity, part of the gain funds the path into the next job.

9. Conclusion

South Africa's AI debate has been conducted mostly in the language of ethics and governance. For a country where a third of the labour force is unemployed, the central question is economic: who captures AI's productivity gains, and who bears the adjustment costs? Without deliberate policy, the gains are likely to accrue disproportionately to firms and workers already positioned to adopt and use the technology.

The alternative is not to resist the technology but to make public support conditional on complementarity. Education must secure foundational literacy and rebuild the entry-level rungs that AI erodes. Industrial policy must use master plans and procurement to steer AI towards upgrading GBS, agriculture and mining. Fiscal incentives must stop favouring capital by default and reward adoption that keeps and trains workers, while existing labour institutions link that adoption to consultation and retraining. The revised national AI policy, now being redrafted, is where this bargain should be written down.

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