



GENIE CAPITAL

NIGERIAN INDUSTRIAL POLICY 2025

Structural Diagnosis and Policy Recommendation

A DIAGNOSTIC ASSESSMENT USING THE INDUSTRIAL STACK FRAMEWORK

OCTOBER 2026

Report Details

Prepared for	The Federal Government of Nigeria; Political Leaders; Investors; Development Partners; Corporate Executives; the Press; the People of Nigeria
Prepared by	Genie Capital Ltd
Framework	Nikoka Protocol, the Industrial Stack
License	CC BY-NC-SA (Creative Commons Attribution-NonCommercial-ShareAlike)
Date	October 2026

This report is offered for public understanding of Nigeria's industrial policy environment. It synthesises only publicly available information through the lens of Nikoka Protocol and Industrial Stack. It does not constitute investment, legal, or financial advice.

About Genie Capital Ltd

Genie Capital Ltd ("Genie Capital") is an IP origination and stewardship company based in Buea, Cameroon. Genie Capital is the originator and steward of novel mathematical formalisms, including Commitment Mathematics, Recursion Mathematics (formerly Loop Theory), Transcendental Mathematics, and derivative works. While the bulk of this work is available under the CC BY-NC-SA license, some derivations are kept proprietary.

In addition to IP origination and stewardship, Genie Capital uses its frameworks to diagnose structural fragilities in global, national, and corporate systems, and makes these diagnoses publicly available under the CC BY-NC-SA license to enhance the public's understanding and to push informed debate.

Every report is made by synthesising only publicly available information through the lens of specific frameworks.

Genie Capital is not an advisory firm, not an investment firm, and not a lobbyist. It holds no position in any of the companies mentioned in this report. None of the companies mentioned are its customers as at the date of publication.

Table of Contents

Executive Summary	5
1. The Industrial Stack: A Diagnostic Framework	6
2. Structural Diagnosis of NIP 2025	11
3. Why Conventional Tools Miss It	27
4. Flow Diagnostics: Where Things Stall	33
5. The Dangote Paradox: Proof and Warning	38
6. Recommendations	41
7. Conclusion: Level the Base	48
References	49

Executive Summary

The Nigeria Industrial Policy (NIP) 2025–2035 is the country's most coherent industrial strategy in decades. It targets a manufacturing contribution of 15% of GDP by 2030 and 25% by 2035. It commits up to 5% of annual GDP to industrial development. It recapitalises the Bank of Industry with ₦3 trillion. It identifies priority sectors — agro-processing, petrochemicals, pharmaceuticals, textiles, light manufacturing. It promises energy reform, free zone expansion, and AfCFTA integration. On paper, it is a serious document.

Yet the results are already diverging from the ambition. Manufacturing's share of GDP fell to 7.72% in Q2 2026 from 9.57% previously. Industrial growth nearly halved from 7.46% to 3.96%. Eight million MSMEs shut down between January 2023 and June 2024 — nearly 20% of the country's small businesses. Manufacturing credit contracted by ₦1.92 trillion. Textile capacity utilisation stands at 53.05%. Automotive assembly is contracting. The Nigerian Economic Summit Group warns of “growing deindustrialisation.”

This report uses the Industrial Stack — a five-layer framework reading from Producer down to Protocol — to diagnose why the policy is failing, and to propose structural recommendations. The central finding: the NIP addresses the Producer layer while ignoring the foundational layers below it. It finances factories without fixing the power, ports, tools, or rules that determine whether factories can operate. It treats corruption as a background condition rather than a direct wound on the Protocol layer that scales upward through the entire stack. It ignores the bottlenecks to flow — material, energy, goods, information, money, and people. It does not address the financial system or the educational system as Protocol sub-layers that require the same structural reform as the base.

The diagnosis is not that the policy lacks ambition. It is that the policy misreads the structure of the problem. It treats industrialisation as a financing problem at the Producer layer when it is a systems problem at the Protocol, Infrastructure, and Platform layers.

Until the base is cleared, Nigeria will remain a seed that never becomes a tree.

This report proceeds in seven parts:

- Section 1 introduces the Industrial Stack framework — its five layers, six flows, fractal structure, and dependency rule.
- Section 2 applies the framework to NIP 2025, layer by layer, including the financial and educational systems as Protocol sub-layers.
- Section 3 shows why twelve conventional diagnostic tools — from GDP decomposition to political economy analysis — miss the structure that the Stack reveals.
- Section 4 traces the six flows of industry — material, energy, goods, information, money, people — and where each one stalls.
- Section 5 examines the Dangote Refinery as proof of what a private stack can achieve within a broken public one, and as a warning about what that implies.
- Section 6 sets out twenty-one structural recommendations, sequenced from Protocol first through to Producer, with an implementation timetable.
- Section 7 concludes: level the base, and the seeds Nigeria has already planted can finally grow.

1 The Industrial Stack: A Diagnostic Framework

1.1 What the Stack Is

The Industrial Stack decomposes industry into the layers that enable it to flow. Its purpose is granularity — enough resolution to see what actually moves, what enables it to move, and where the bottlenecks sit.

Industry is not a single chain. It is a stack of enabling layers. Each layer has sub-layers. Each sub-layer has functions. Each function has examples. The resolution matters because different industries bottleneck at different layers, and different problems require different zoom levels.

The stack reads from the top down. Start at the Producer — the visible, tangible, output-creating layer. Then descend through what enables it: Aggregator, Platform, Infrastructure, Protocol. Each step down is a step toward the base. Each step down is more foundational, more abstract, more invisible.

1.2 The Five Layers

The Industrial Stack: Five Enabling Layers

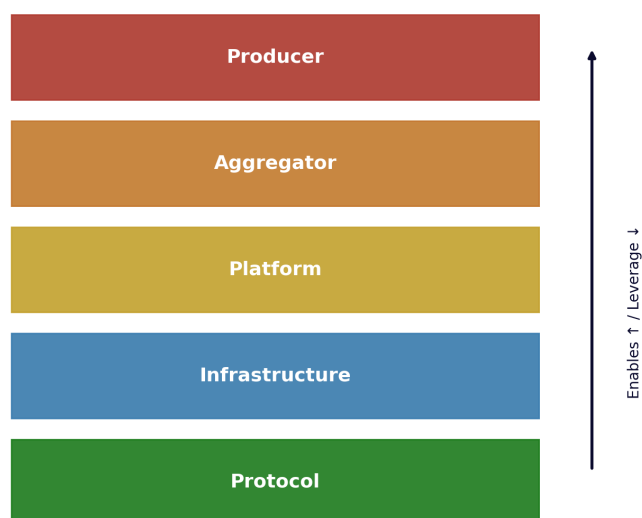


Figure 1.1 — The Industrial Stack reads from Producer (most visible, most exposed) down to Protocol (most foundational, most powerful).

Layer	Analogy	Control	Output Dimensions	Enables Flow By
Producer	Value makers	Input	Quality × Quantity	Transforming inputs into output
Aggregator	Market creators	Matching	Selection × Access	Routing inputs and output to the right place
Platform	Toolmakers & parts makers	Abstraction	Simplicity × Versatility	Providing the means and components of production
Infrastructure	Substrate & heavy-machine providers	Substrate	Bandwidth × Reliability	Providing raw materials, energy, transport, and heavy capacity

Layer	Analogy	Control	Output Dimensions	Enables Flow By
Protocol	Standard setters	Logic	Coherence × Universality	Making things compatible so they can flow at all

Reading order: Producer → Aggregator → Platform → Infrastructure → Protocol.

Enablement order: Protocol enables Infrastructure, which enables Platform, which enables Aggregator, which enables Producer.

Flow order: Material, energy, goods, information, money, and people move upward from the base to the Producer, then out to the consumer.

1.3 The Six Flows

Industry flows in six channels. Each layer enables each channel differently.

Flow	What Moves	From	To
Material	Ore, concentrate, metal, chemicals, assemblies, agricultural commodities	Extraction	Finished product
Energy	Primary energy, converted energy, delivered energy	Generation	Consumption
Goods	Finished and semi-finished products	Production	Use
Information	Designs, specs, orders, schedules, control signals, feedback	Demand	Supply and back
Money	Payments, credit, capital, insurance	Buyer	Seller and back
People	Labor, skills, knowledge, organization	Workforce	Production

Flow has properties: rate, latency, reliability, cost, quality, flexibility. Each layer affects these differently. Protocol affects compatibility and latency. Infrastructure affects rate and reliability. Platform affects quality and flexibility. Aggregator affects cost and access. Producer affects output quality and quantity.

1.4 The Fractal Nature of the Stack

Each layer contains a smaller stack. The same five-layer structure recurs at every resolution — and each nested stack also reads from Producer down to Protocol.

Inside a Producer (a factory)

Layer	Factory Equivalent
Producer	Work cells, lines, shifts
Aggregator	Internal logistics, scheduling, material handling
Platform	Machines, tools, fixtures, gauges, robots
Infrastructure	Utilities, building, power, water, compressed air
Protocol	Work instructions, specs, tolerances, safety rules

Inside an Aggregator (a distributor)

Layer	Distributor Equivalent
Producer	Kitting, assembly, labeling, value-added services
Aggregator	Purchasing, sales, vendor management
Platform	WMS, scanners, forklifts, packaging equipment
Infrastructure	Warehouses, trucks, racks, conveyors
Protocol	Product codes, EDI standards, packaging specs

Inside an Infrastructure (a port)

Layer	Port Equivalent
Producer	Stevedoring, terminal operations
Aggregator	Shipping lines, freight forwarders, agents
Platform	Cranes, gantries, straddle carriers, IT systems
Infrastructure	Berths, quays, channels, roads, rail
Protocol	IMO rules, customs codes, safety standards

Inside a Platform (a machine shop)

Layer	Machine Shop Equivalent
Producer	Finished machined parts
Aggregator	Job scheduling, material sourcing, order intake
Platform	Lathes, mills, fixtures, cutters, gauges
Infrastructure	Building, power, compressed air, coolant
Protocol	Tolerances, material specs, inspection standards

The fractal nature means you can zoom to any level and find the same structure. The resolution you choose depends on the question you are asking.

1.5 The Dependency and Leverage Rule

Reading from the top down, each layer depends on the layers below it.

Layer	Depends On	For
Producer	Aggregator, Platform, Infrastructure, Protocol	Sourcing, tools, materials, compatibility
Aggregator	Platform, Infrastructure, Protocol	Systems, physical capacity, compatibility
Platform	Infrastructure, Protocol	Materials, energy, heavy machines, compatibility
Infrastructure	Protocol	Compatibility across regions and firms
Protocol	Nothing	It is the base

The dependency is also a leverage. Each layer below holds power over the layer above it. The Producer is the most exposed position in the stack because every layer below it can squeeze it. The Protocol is the most structurally powerful position because it has no layer below it to be squeezed by.

1.6 Diagnostic Use

The Industrial Stack is a diagnostic tool. Use it to find where flow is constrained. Start at the Producer. Descend until you find the constraint.

Questions to ask at each layer

Layer	Diagnostic Questions
Producer	Is quality high enough? Is quantity sufficient? Is cost competitive? Is the output mix right?
Aggregator	Is selection deep enough? Is access open enough? Is matching efficient? Is logistics reliable?
Platform	Is it simple enough to use? Is it versatile enough to adapt? Is it precise enough? Is it available?
Infrastructure	Is capacity sufficient? Is it reliable? Is it located correctly? Is it cost-competitive?
Protocol	Are standards coherent? Are they universal? Are they fragmented? Are they captured?

Flow diagnostics

Flow	Diagnostic Questions
Material	Where does material stall? What is the lead time? What is the yield?
Energy	Is power reliable? Is it affordable? Is it clean?
Goods	How long does it take to reach market? What is the cost per unit?
Information	Is data shared? Is it accurate? Is it timely?
Money	Is credit available? Is it affordable? Does it flow to production?
People	Are skills available? Are they matched to demand? Are they affordable?

2 Structural Diagnosis of NIP 2025

2.1 The Producer Illusion

The NIP 2025 is a Producer-centric document. Its core instruments — the ₦3 trillion Bank of Industry recapitalisation, the allocation of 5% of GDP to industrial financing, the focus on agro-processing, petrochemicals, and light manufacturing — all target the top of the stack. The logic is straightforward: if you finance factories, industry will grow.

But the Producer is the most exposed position in the stack. It is squeezed by every layer below it. When Infrastructure fails, the Producer pays. When Platform is absent, the Producer imports. When Protocol is captured, the Producer absorbs the rents. Financing the Producer without securing the foundation is like watering a tree while the soil is poisoned.

2.1.1 The Evidence of Producer Distress

The evidence is stark and mounting.

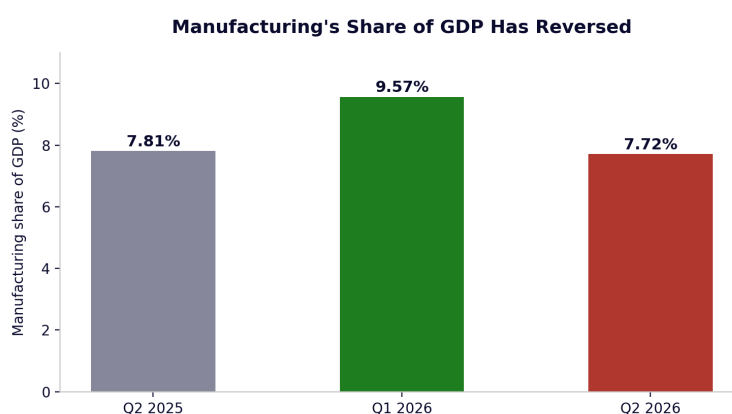


Figure 2.1 — Manufacturing's share of GDP fell to 7.72% in Q2 2026 after peaking at 9.57% the previous quarter.

Manufacturing output and GDP share:

- Manufacturing's share of GDP fell to 7.72% in Q2 2026 from 9.57% previously — a decline of nearly two percentage points.
- Industrial growth nearly halved from 7.46% to 3.96% year-on-year.
- The NESG warns of “growing deindustrialisation,” with manufacturing output concentrated in just a handful of subsectors — Food, Beverages & Tobacco, Cement, and Textiles account for about 74% of total manufacturing output.
- Real manufacturing output grew only 3.24% in Q2 2026 — barely above population growth, meaning per-capita manufacturing output is stagnant or falling.

Business closures and informalisation:

- Eight million MSMEs shut down between January 2023 and June 2024 — nearly 20% of the country's small businesses.
- The Manufacturers Association of Nigeria (MAN) reports that its members are “increasingly informalising” — reducing formal operations to avoid taxes, regulations, and costs that formal status imposes.

- Many manufacturers have shifted from production to trading — importing finished goods rather than making them — because the cost of domestic production is uncompetitive.

Sectoral distress:

- Textiles and apparel are “actively contracting,” with imports up 47% year-on-year. Capacity utilisation stands at 53.05% — meaning nearly half of installed capacity sits idle.
- Automotive assembly is contracting. Nigeria's vehicle assembly plants operate far below capacity, unable to compete with imported used vehicles.
- Food and beverage giants like Nestlé, BUA Foods, and Dangote Sugar post strong revenues, but this reflects consolidation around a few large players rather than broad-based industrial expansion.
- Cement is a rare success story: Dangote Cement operates roughly 52 Mt/yr of capacity (35+ Mt in Nigeria), and BUA Cement roughly 17–20 Mt/yr, making Nigeria one of Africa's leading producers. But cement is capital-intensive, not labour-intensive — it does not absorb the workforce that textiles and light manufacturing once did.

Credit contraction:

- Manufacturing credit contracted by ~~₦1~~1.92 trillion (22.5%), falling from ~~₦8~~8.53 trillion to ~~₦6~~6.61 trillion between December 2024 and December 2025.
- This contraction occurred despite the CBN's 45% cash reserve ratio (CRR) being intended to control inflation, not to starve industry.
- The ~~₦1~~1 trillion Manufacturing Stabilisation Fund, introduced in 2024, remains unreleased as of mid-2026.

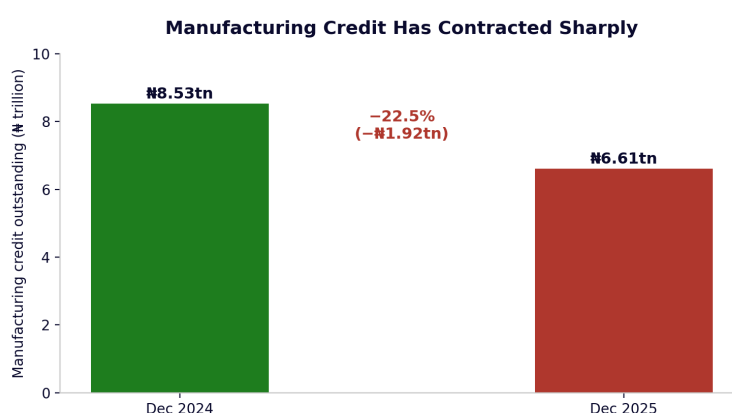


Figure 2.2 — Manufacturing credit contracted by ~~₦1~~1.92 trillion (22.5%) between December 2024 and December 2025.

Energy brings logistics, logistics brings working-capital pressure, working-capital pressure brings expensive credit, and weak investment keeps productivity low. It is a vicious cycle where each layer of the stack amplifies the failures of the layers below it. — Director-General, Manufacturers Association of Nigeria, on the “compound cost of doing business”

2.1.2 Why Financing Alone Cannot Fix the Producer

The NIP's core assumption — that financing is the binding constraint — is wrong. Financing is necessary but not sufficient. The Producer cannot deliver when:

- Energy accounts for 50% of overheads. A factory that spends half its operating budget on power cannot compete with a factory in Bangladesh or Vietnam that spends 5–10%.

- Lending rates average 32%. MAN calls them “suicidal” for productivity. No manufacturer anywhere in the world can be competitive borrowing at 30%.
- Port dwell times are 18–21 days. Working capital dies in the harbour. A container that sits for three weeks is a container that has stopped generating revenue while still incurring costs.
- Customs FX rate changes exceeded 100 times between 2024 and 2025, lifting input prices by 120%. Manufacturers cannot plan when their input costs change by the week.
- Over 60 subnational taxes and illegal haulage levies impose arbitrary costs that no business plan can absorb.
- \$2,000 SONCAP certificates and 90–120 day NAFDAC registration cycles strangle working capital before a single unit is sold.

These are not Producer problems. They are Protocol, Infrastructure, and Platform failures that manifest at the Producer layer. Financing the Producer without fixing the layers below is like giving a man a car when the roads are impassable and the fuel station is dry.

2.1.3 The Producer as the Most Exposed Position

The Industrial Stack's dependency rule states that each layer below holds leverage over the layer above it. The Producer is at the top of the stack, which means it is squeezed by every layer below:

- Protocol imposes unpredictable rules, multiple taxes, and captured certification.
- Infrastructure fails to deliver reliable power, functional ports, and connected transport.
- Platform fails to provide domestic tools, parts, and equipment, forcing import dependence.
- Aggregator fails to route inputs and outputs efficiently, raising logistics costs and lengthening lead times.

The Producer absorbs all these failures. It cannot pass them on to consumers because consumers have alternatives — imported goods, informal substitutes, or simply doing without. So the Producer either exits, informalises, or operates at a loss. That is why eight million MSMEs shut down. That is why manufacturing GDP share is falling. That is why the NIP's targets will not be met by financing alone.

2.2 Aggregator: The Logistics Paralysis

2.2.1 Function and Control

- Function: Match supply, demand, capacity, and logistics.
- Control: Matching.
- Output dimensions: Selection × Access.
- Enables flow by: Routing inputs and output to the right place at the right time.

The Aggregator sits between producers and their inputs, and between producers and their markets. It is the layer that turns isolated transactions into flows. It includes commodity traders, distributors, equipment dealers, wholesale markets, and auctions.

2.2.2 The Diagnosis: Logistically Paralysed

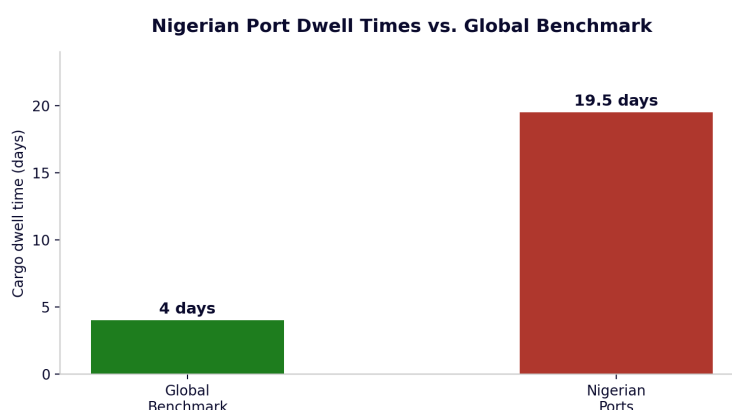


Figure 2.3 — Nigerian port dwell times run nearly five times the global benchmark of three to four days.

Port dwell times:

- Cargo dwell times stand at 18–21 days, 475% above global benchmarks of 3–4 days.
- Clearing goods in Nigeria is 30% costlier than in Ghana and Benin, according to the World Bank.
- The World Bank estimates annual losses of \$3–5 billion in freight charges and up to ₦2 trillion in demurrage from port inefficiency alone.
- Apapa and Tin Can Island ports — which handle the majority of Nigeria's imports — suffer from “outdated automation infrastructure” and indiscriminate staging of heavy-duty vehicles.

Freight costs:

- Freight costs increased by 85% in 2025.
- It is often cheaper to ship goods from China to Lagos than to move them from Lagos to Kano — a distance of roughly 1,000 km within the same country.
- Roads account for more than 90% of internal cargo transport, yet 30% of federal roads require major rehabilitation.
- Rail, which should carry bulk freight, remains limited and unreliable. The Lagos–Kano rail corridor is not fully operational for freight.

Checkpoints and extortion:

- The Maritime Anti-Corruption Network and Convention on Business Integrity logged 455 “large cash unreceipted payments” at Nigerian ports.

- The Patriots Anti-Corruption Initiative found that one member paid ₦30,000 for a container as a bribe to secure clearance.
- The Presidential Enabling Business Environment Council discovered widespread extortion checkpoints along the Apapa and Tin Can Island port corridors.
- Illegal haulage levies are imposed by subnational governments and informal enforcers, adding arbitrary costs to every movement.

Logistics market structure:

- Logistics alone decomposes into modes (truck, rail, ocean, air), services (FTL, LTL, parcel, project cargo), functions (brokerage, forwarding, customs, warehousing), and regions. Each has its own market structure and its own bottlenecks.
- Nigeria's logistics market is fragmented, with a large informal sector, low barriers to entry, and weak enforcement of standards. This fragmentation raises costs and lowers reliability.

2.2.3 Why the Aggregator Cannot Fix Itself

The Aggregator cannot fix its own problems because it depends on layers below:

- Platform provides the tools and systems that make matching and logistics work — WMS, scanners, forklifts, packaging equipment, IT systems. Nigeria's Platform layer is weak, so Aggregators operate with outdated equipment and manual processes.
- Infrastructure provides the physical capacity — warehouses, trucks, ports, rail, compute. Nigeria's Infrastructure is the binding constraint, so Aggregators cannot route efficiently.
- Protocol makes goods, documents, and transactions compatible across parties — EDI standards, customs codes, packaging specs. Nigeria's Protocol is fragmented and captured, so Aggregators face arbitrary delays and costs.

The NIP addresses value chain linkages in principle but does not resolve the physical and procedural bottlenecks that make matching uneconomic. No amount of value chain coordination can overcome 21-day port delays and extortion checkpoints.

2.2.4 The Compound Effect on Producers

When the Aggregator layer fails, the Producer pays:

- Input costs rise because raw materials and components cannot reach the factory on time or at reasonable cost.
- Working capital dies because goods sit in ports or on roads instead of moving to market.
- Lead times lengthen because logistics is unpredictable, forcing producers to hold larger inventories or lose customers.
- Competitiveness erodes because imported goods — which benefit from efficient ports in their home countries — can reach Nigerian consumers faster and cheaper than domestic goods can.

The Aggregator is the circulatory system of industry. When it is paralysed, every organ above it suffers.

2.3 Platform: The Structural Vacuum

2.3.1 Function and Control

- Function: Provide the modular, deployable means and components of production.
- Control: Abstraction.
- Output dimensions: Simplicity × Versatility.
- Enables flow by: Giving producers and aggregators the ability to cut, form, assemble, measure, move, and control.

The Platform layer includes toolmakers (machine tools, cutting tools, molds and dies, jigs and fixtures, metrology, automation, assembly systems, software tools) and parts makers (power transmission, motion control, fasteners, sealing, fluid power, electrical/electronic, structural, subassemblies).

2.3.2 The Diagnosis: Structurally Absent

Machine tools:

- Only one machine tools manufacturer operates in Nigeria: Nigeria Machine Tools Limited (NMTL), established in 1980 as a joint venture with Hindustan Machine Tools.
- NMTL initially did SKD assembly from India. After the Indian partner withdrew, NMTL developed its own designs for simple machine tools — wood-working lathes, pedestal grinders, power hacksaws.
- But NMTL has operated at a loss since establishment and has never performed near its target design capacity.
- NMTL was privatised in 2007 and has since expanded into stud-bolt manufacturing, zinc electroplating, and hot-dip galvanising, achieving ISO-9001 certification and OEM approvals from Shell, ExxonMobil, and Chevron. But one company cannot supply a nation's platform layer.

Parts and components:

- Nigeria imports virtually all its bearings, gears, fasteners, seals, motors, drives, actuators, valves, pumps, and electronic components.
- There is no domestic supply chain for even simple parts — bolts, nuts, washers, rivets.
- The consequence is that Nigerian producers remain dependent on imported machinery, spare parts, and tooling — exposed to every FX shock and supply chain disruption.

Metrology and quality infrastructure:

- Precision measurement equipment — CMMs, laser scanners, optical comparators, surface profilometers, hardness testers, spectrometers — is almost entirely imported.
- There are few accredited calibration laboratories. Manufacturers cannot verify that their measurements are accurate or traceable.
- Non-destructive testing (NDT) equipment and expertise are scarce.

Automation and control:

- Robots, cobots, conveyors, AGVs, AMRs, and pick-and-place systems are imported.
- PLCs, SCADA systems, and industrial software are dominated by foreign vendors.
- There is no domestic capability to design, build, or maintain automation systems.

Software tools:

- CAD, CAM, CAE, PLM, MES, ERP, and digital twin software are all imported.
- There is no domestic industrial software industry.
- Licensing costs are denominated in foreign currency, adding to FX exposure.

2.3.3 The Skills Consequence

The Platform vacuum has a direct consequence for skills:

- Technical training programmes lack foundry technology, machine tools practice, and mechatronics because there is no domestic industrial ecosystem to sustain them.
- The Nigerian Association of Technologists in Engineering warns of “a shortage of strategic technical skills that support manufacturing, production engineering and industrial development.”
- Universities produce 2.1 million graduates annually in fields the labour market has not demanded for a decade, while manufacturers “hunt for machinists, technicians, and fabricators they cannot find.”
- The Industrial Training Fund operates at less than 30% of its mandated coverage.
- The National Directorate of Employment has not produced a publicly audited placement report since 2019.

The skills pipeline breaks not because talent is absent, but because the Platform layer that would employ and develop that talent does not exist.

2.3.4 Why the Platform Cannot Fix Itself

The Platform cannot fix its own problems because it depends on layers below:

- Infrastructure provides the materials, energy, and heavy machines that build tools and parts — steel, aluminium, copper, cement, electricity, transport. Nigeria's Infrastructure is the binding constraint, so Platform cannot develop.
- Protocol makes tooling, parts, and interfaces compatible — standards for threads, fits, tolerances, materials, safety, quality. Nigeria's Protocol is fragmented and captured, so Platform cannot achieve the coherence and universality it needs.

The NIP 2025 does not meaningfully address the Platform layer. There is no strategy for domestic machine tool manufacturing, no programme for parts and components supply chains, no investment in metrology and shared equipment centres. The consequence is that Nigeria's industrialisation will remain shallow — assembly of imported components rather than true manufacturing.

2.4 Infrastructure: The Binding Constraint

2.4.1 Function and Control

- Function: Provide the physical foundation on which production rests.
- Control: Substrate.
- Output dimensions: Bandwidth × Reliability.
- Enables flow by: Providing materials, energy, transport, and heavy capacity at scale.

The Infrastructure layer includes raw substrates (mining and extraction, energy extraction, aggregates, basic materials), energy (primary energy, conversion, delivery), transport (modes, nodes, corridors, equipment, handling), and heavy machines (extraction equipment, construction equipment, energy equipment, process equipment, handling equipment).

2.4.2 The Diagnosis: The Primary Bottleneck

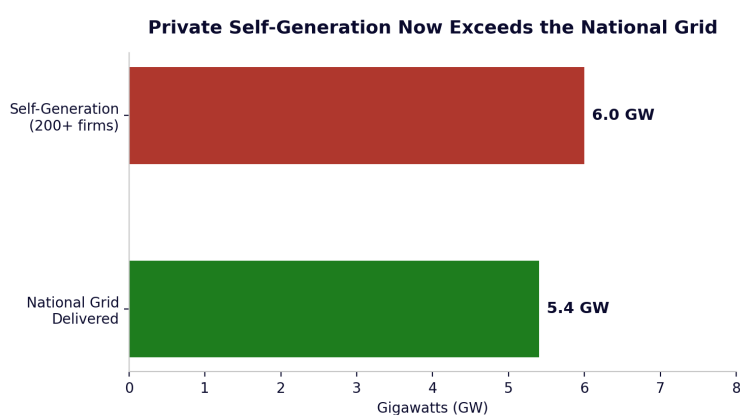


Figure 2.4 — Private self-generation by 200+ major companies now exceeds the power the national grid delivers to over 220 million people.

Power:

Metric	Status
Installed generation capacity	~13,000 MW
Actual grid delivery	<5,400 MW
Self-generation by 200+ major companies	6,000 MW
Energy share of manufacturing overheads	50%
Alternative power spend (2025)	₦1.34 trillion

- Power generation struggles at roughly 5,400 MW for over 220 million people — less than South Korea had in 1980.
- Manufacturers spent ₦1.34 trillion on alternative energy sources in 2025.
- More than 200 major companies generate their own electricity, collectively producing over 6,000 MW — more than the national grid delivers to over 220 million people.
- The grid is unreliable, with frequent outages and voltage fluctuations that damage equipment and disrupt production.

- Nigeria ranks 178th out of 190 countries in electricity access, according to the World Bank.

Transport:

- Only 6% of proposed infrastructure projects reach construction, and just 10% reach financial close.
- Roads decay before completion. As the Nigerian Society of Engineers' president put it, ports handle 70% of ECOWAS trade yet remain congested and inefficient — describing this as a failure of execution rather than mere inefficiency.
- Rail services remain limited and inland waterways underused.
- The East-West Road, critical for freight, has remained partially unmotorable for years, forcing manufacturers to spend billions on alternative routes and private escorts.

Ports:

- Apapa and Tin Can Island ports handle the majority of Nigeria's imports but suffer from outdated automation infrastructure and indiscriminate staging of heavy-duty vehicles.
- Cargo dwell times of 18–21 days are among the worst in the world.
- The Lagos–Kano corridor, which should be the backbone of Nigerian logistics, is unreliable by road and incomplete by rail.

Infrastructure stock and gap:

- Nigeria's infrastructure stock is approximately 30% of GDP, compared to a benchmark of 70% for comparable emerging economies.
- The infrastructure gap is estimated at \$2.3 trillion over the next 30 years.
- The NIP's focus on industrial power zones and integrated transport corridors is directionally correct but insufficient. The policy does not treat infrastructure as the foundational substrate that determines everything above it.

2.4.3 Why Infrastructure Is the Binding Constraint

- Everything above it depends on it. Tools and parts cannot be made without raw material. Machines cannot run without energy. Goods cannot move without transport.
- It sets the bandwidth and reliability of the entire system. No matter how efficient the Producer, Aggregator, or Platform, they cannot exceed the bandwidth and reliability of the Infrastructure layer below them.
- It is the most capital-intensive layer. Infrastructure requires long-term, large-scale investment that no single firm can provide. It is a public good that requires public coordination.
- It is the most politically contested layer. Infrastructure contracts are large, lucrative, and opaque. Corruption at the Infrastructure layer is grand corruption, not petty bribery. It shapes entire sectors for decades.

The NIP acknowledges energy reform as central but does not treat infrastructure as the foundational layer it is. Its proposals — solar panel production, IPPs for industrial hubs — are marginal fixes for a structural collapse.

2.4.4 The Cost of Infrastructure Failure

When Infrastructure fails, every layer above pays:

- Producers spend 50% of overheads on alternative power and lose working capital to port delays.

- Aggregators cannot route efficiently, raising freight costs and lengthening lead times.
- Platform cannot develop because there is no reliable power or transport to sustain tool and parts manufacturing.
- Consumers pay higher prices for goods that are more expensive to produce and move.
- The economy loses competitiveness, investment, and jobs.

Infrastructure failure is not a side issue. It is the binding constraint that determines what the rest of the stack can do.

2.5 Protocol: The Wounded Base

2.5.1 Function and Control

- Function: Make things compatible so they can flow at all.
- Control: Logic.
- Output dimensions: Coherence × Universality.
- Enables flow by: Defining the rules of coordination — units, dimensions, grades, interfaces, safety, quality, process, transport, grid, environment.

Protocol is the base of the stack. It is the most abstract, the most invisible, and the most foundational. Nothing above it works without it. But it is also the layer people notice least — until it breaks, fragments, or gets captured.

2.5.2 The Diagnosis: Fragmented, Incoherent, and Captured

Customs and FX:

- Customs FX rate changes exceeded 100 times between 2024 and 2025, lifting input prices by 120%.
- Manufacturers cannot plan when their input costs change by the week.
- The FX regime is opaque, with multiple windows and arbitrary allocation.

Taxation:

- Manufacturers contend with over 60 subnational taxes and illegal haulage levies.
- These taxes are imposed by states, local governments, and informal enforcers, often with no legal basis.
- The multiplicity of taxes raises costs, lengthens compliance times, and creates opportunities for corruption.

Certification:

- \$2,000 SONCAP certificates and 90–120 day NAFDAC registration cycles strangle working capital.
- Certification is mandatory for all locally manufactured products subject to a Nigerian Industrial Standard.
- The BPP-SON memorandum of understanding now makes NIS attestation certificates mandatory for all Federal Government procurement involving goods.
- But certification is slow, expensive, and inconsistent — a toll rather than a standard.

Standards:

- The Standards Organisation of Nigeria (SON) administers Nigerian Industrial Standards (NIS), but enforcement is weak and inconsistent.
- There are over 200 standards bodies globally, each with its own standards, revisions, and regional variants. Nigeria must navigate this complexity with limited capacity.
- Qualification procedures, inspection methods, and acceptance criteria are often unclear or contradictory.

Policy inconsistency:

- MAN wants the NIP 2025 enacted into law to prevent policy reversal with political cycles.

- Policy inconsistency is itself a Protocol failure — it destroys the predictability that industry needs to invest.
- The NIP acknowledges “regulatory bottlenecks” but does not treat Protocol as the foundational layer it is.

2.5.3 Corruption as a Wound on Protocol

Corruption is not merely a scourge that sits alongside the stack. It is a direct wound on Protocol that scales upward through every layer above it.

Protocol's function is to make things compatible. Its control is logic. Its output dimensions are coherence × universality. Corruption inverts all three:

- Logic becomes discretion. Rules are replaced by the judgement, whim, or price set by an official.
- Coherence becomes arbitrariness. The same rule is applied differently to different firms, depending on connection or payment.
- Universality becomes particularism. Access is not for everyone; it is for those who can pay or are connected.

This creates a shadow protocol — an informal set of rules that competes with the formal one. Producers must satisfy both. The formal protocol says one thing; the shadow protocol says another. The result is not just higher cost. It is systemic uncertainty, which is the enemy of industrial investment.

How corruption scales upward

Layer	How Corruption Manifests	Effect on Flow
Protocol	Captured rules, arbitrary enforcement, multiple taxes, customs FX volatility	Destroys predictability; creates rents
Infrastructure	Inflated contracts, abandoned projects, neglected maintenance, opaque power and port deals	Shrinks bandwidth; lowers reliability
Platform	Import monopolies, forex allocation, counterfeit parts, weakened standards	Blocks domestic tooling; forces import dependence
Aggregator	Checkpoints, port bribes, illegal haulage levies, clearing delays	Raises freight costs; lengthens latency
Producer	Compound costs, credit rationing, informalisation, exit	Factories close; manufacturing GDP falls

The self-reinforcing dynamic:

- Officials who profit from port delays have no incentive to clear the port.
- Agencies that earn from certification delays have no incentive to speed them up.
- Subnational governments that collect illegal levies have no incentive to harmonise taxes.
- Import monopolies that benefit from FX allocation have no incentive to liberalise.
- Corruption becomes the business model.

The scale of corruption:

- The Maritime Anti-Corruption Network and Convention on Business Integrity logged 455 “large cash unreceipted payments” at Nigerian ports.

- The Patriots Anti-Corruption Initiative found that one member paid ₦30,000 for a container as a bribe to secure clearance.
- The Presidential Enabling Business Environment Council discovered widespread extortion checkpoints along the Apapa and Tin Can Island port corridors.

Why corruption is a Protocol problem, not a moral problem:

- Corruption is not an external moral failing that sits alongside the stack. It is a structural feature of a captured Protocol layer.
- Anti-corruption campaigns that target individuals without reforming Protocol will fail because the incentives remain unchanged.
- The solution is not moral exhortation. It is system redesign: reduce discretion, digitise customs and FX, publish contracts, adopt open contracting, enforce beneficial ownership, automate certification, protect whistleblowers, and make rules universal and predictable.

2.5.4 Why Protocol Is the Most Structurally Powerful Layer

- It has no layer below it to be squeezed by. Unlike the Producer, which is squeezed by every layer below, Protocol sits at the base. It cannot be squeezed by anything below it.
- It determines what is possible above it. Every layer above Protocol depends on it for compatibility. If Protocol is incoherent, everything above it is incoherent.
- It shapes the rules of the game. Protocol defines what is measured, what is compatible, what is safe, what is quality, what is allowed. It is the layer where power is most concentrated and least visible.
- It is the layer people notice least — until it breaks. Protocol is invisible when it works. It is only when it fragments, becomes incoherent, or gets captured that people realise how foundational it is.

The NIP 2025 does not treat Protocol as the foundational layer it is. It does not propose a coherent, digitised, uniformly enforced protocol regime. It does not address the shadow protocol. It does not recognise that corruption is a wound on Protocol that scales upward through every layer.

2.6 The Financial System: A Protocol Sub-Layer

2.6.1 Function and Diagnosis

Function: Allocate capital to productive use.

Diagnosis: The financial system is a Protocol sub-layer that determines money flow. When credit allocation is captured or distorted, industry starves.

- Short-term lending rates average 32%, with prime rates at 27–30% even after the CBN cut the MPR to 23%.
- Manufacturing credit contracted by ₦1.92 trillion (22.5%) between December 2024 and December 2025.
- The 45% cash reserve ratio cuts bank credit to manufacturing by nearly ₦2 trillion.
- The ₦1 trillion Manufacturing Stabilisation Fund, introduced in 2024, remains unreleased.
- MAN's Director-General put it bluntly: no manufacturer anywhere in the world can be competitive borrowing at 30%.
- Banks prefer risk-free government securities to lending to manufacturers. The yield on government bonds is higher than the return on most manufacturing investments, so capital flows to the government rather than to production.
- The recapitalised Bank of Industry is a positive step, but it cannot substitute for a financial protocol that rewards arbitrage over production.

Why the financial system is a Protocol sub-layer:

- Money flow depends on Protocol — rules for payments, credit, capital, insurance, and currency convertibility.
- When Protocol is captured, credit allocation is distorted. Connected firms get access; others do not.
- When Protocol is incoherent, lending rates are unpredictable, and manufacturers cannot plan.
- When Protocol is fragmented, multiple regulators and overlapping rules raise compliance costs.

The consequence for industry:

- Manufacturers cannot expand or modernise without affordable credit.
- Working capital is consumed by high interest payments rather than invested in production.
- Small and medium enterprises — the majority of manufacturers — are priced out of the credit market entirely.
- The economy loses competitiveness, investment, and jobs.

2.6.2 Recommendations for the Financial Protocol

- Reduce the 45% CRR to free up bank credit for manufacturing.
- Operationalise the ₦1 trillion Manufacturing Stabilisation Fund at 9% interest, as originally intended.
- Ensure MPR cuts transmit to lending rates by reforming the transmission mechanism.
- Create a dedicated FX window for critical raw materials and heavy machinery.
- Mandate a percentage of bank credit to manufacturing, with penalties for non-compliance.

- Reform the financial protocol to reward production over arbitrage — reduce the attractiveness of government securities, lower the cost of lending to industry, and improve the transmission of monetary policy.

2.7 The Educational System: A Protocol Sub-Layer

2.7.1 Function and Diagnosis

Function: Produce and signal skills.

Diagnosis: The educational system is a Protocol sub-layer that determines people flow. When certification is corrupted or misaligned, manufacturers cannot trust that a graduate can machine, weld, or maintain equipment.

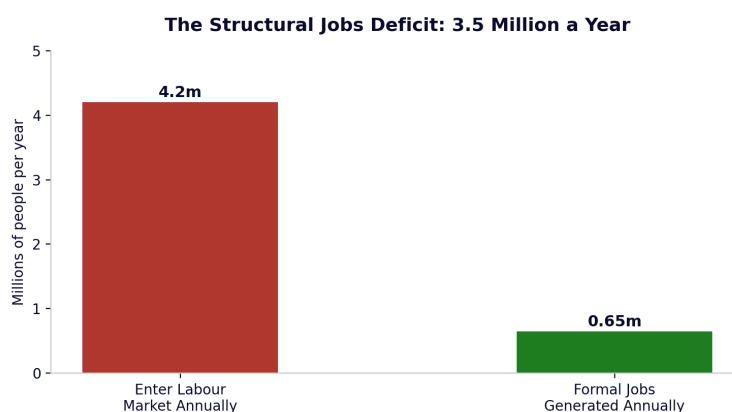


Figure 2.5 — Nigeria's formal economy generates roughly 650,000 jobs a year against 4.2 million new entrants: a structural deficit of 3.5 million jobs annually.

- Nigeria spends 5.4% of its annual budget on education — producing graduates into an economy that cannot absorb them.
- Universities produce 2.1 million graduates annually in fields the labour market has not demanded for a decade.
- 53% of Nigerians aged 18–35 are unemployed or in non-productive employment.
- 4.2 million young Nigerians enter the labour market annually; the formal economy generates approximately 650,000 jobs — a structural deficit of 3.5 million per year.
- 14.4% of people aged 15–24 are neither in employment, education, nor training.
- The mismatch is not a talent deficit. It is a policy failure rooted in a broken Protocol layer.
- Universities produce graduates in fields the economy does not demand while facing acute shortages in software engineering, precision manufacturing, renewable energy installation, and advanced logistics.
- The Industrial Training Fund operates at less than 30% of its mandated coverage.
- The National Directorate of Employment has not produced a publicly audited placement report since 2019.

Why the educational system is a Protocol sub-layer:

- People flow depends on Protocol — rules for labor, skills, knowledge, organization, and certification.
- When certification is corrupted, credentials lose universality. Manufacturers cannot trust that a graduate can machine, weld, or maintain equipment.
- When the curriculum is misaligned with industry demand, graduates cannot find work, and employers cannot find skills.
- When the signal is corrupted, manufacturers rely on informal networks instead of formal credentials.

The consequence for industry:

- Manufacturers cannot find the skills they need — machinists, technicians, fabricators, maintenance engineers.
- They must import expertise or train workers themselves, raising costs.
- Productivity remains low because the workforce lacks the skills to operate advanced equipment.
- The demographic dividend becomes a demographic risk — a growing population without the skills to produce.

2.7.2 Recommendations for the Educational Protocol

- Align curriculum with industry demand. Industry must commit to real job roles 12 months in advance. Universities and polytechnics must redesign final-year programmes to match those roles — six months classroom, six months factory floor.
- Bring back foundry technology, machine tools practice, and mechatronics into mainstream technical training.
- Reform certification to ensure that credentials are universal, verifiable, and trusted by employers.
- Operationalise the Industrial Training Fund to reach its mandated coverage.
- Publish audited placement reports from the National Directorate of Employment.
- Invest in teacher training and equipment for technical colleges.
- Create industry-education partnerships that give students real factory experience and give employers real input into curriculum design.

2.8 Summary of the Diagnosis

The NIP 2025 addresses the Producer layer while ignoring the layers below it:

Layer	Policy Focus	Actual State	Verdict
Producer	Financed, prioritised	Falling GDP share, closing factories	Financing alone cannot fix
Aggregator	Value chain linkages mentioned	Logistically paralysed	Not addressed
Platform	Not addressed	Structurally absent	Ignored
Infrastructure	Energy reform mentioned	Binding constraint	Marginal fixes only
Protocol	Regulatory bottlenecks acknowledged	Fragmented, incoherent, captured	Not treated as foundational
Financial system	BoI recapitalised	Credit contracted ₦1.92tn, rates 32%	Protocol reform needed
Educational system	Not addressed	53% youth unemployment, skills mismatch	Protocol reform needed

The policy's targets assume that if financing is available, flows will move. But flows are constrained by the layers below. Material cannot flow when ports are congested. Energy cannot flow when the grid is broken. Money cannot flow when banks prefer government securities. People cannot flow when skills are misaligned with industry needs.

3 Why Conventional Tools Miss It

Conventional approaches to industrial policy analysis — GDP decomposition, value chain analysis, econometric modelling, “ease of doing business” rankings, FDI attraction strategies, and political economy analysis — all miss the layered, dependency-driven nature of the Industrial Stack. They treat industry as a set of sectors, variables, or constraints rather than a stack of enabling layers. They measure outcomes at the Producer layer without descending to the layers that determine those outcomes. They miss the wound on Protocol and the bottlenecks to flow.

3.1 GDP Decomposition

What it does: Decomposes GDP into sectors — agriculture, manufacturing, services, oil and gas — and tracks their shares over time.

Why it misses it: GDP decomposition tells you what is happening at the Producer layer but not why. It shows that manufacturing's share of GDP fell to 7.72% but does not explain that the fall is driven by Infrastructure failure, Platform absence, and Protocol capture. It treats manufacturing as a sector rather than a layer at the top of a stack. It does not see the enabling layers below.

What it misses:

- The dependency of manufacturing on Aggregator, Platform, Infrastructure, and Protocol.
- The flow bottlenecks — material, energy, goods, information, money, people — that constrain production.
- The difference between output and capacity utilisation — a factory can produce at 50% capacity and still register output.
- The informal sector, which absorbs firms that exit the formal Producer layer.

What the Stack sees: Manufacturing GDP share is falling because the layers below the Producer are wounded. Financing the Producer without fixing the layers below is like watering a tree while the soil is poisoned.

3.2 Value Chain Analysis

What it does: Maps the sequence of activities from raw material to finished product — extraction, processing, assembly, distribution, retail — and identifies where value is added and where bottlenecks occur.

Why it misses it: Value chain analysis is horizontal — it follows a product through stages. The Industrial Stack is vertical — it follows enablement through layers. Value chain analysis asks where in the chain value accrues; the Stack asks which layer enables the chain to flow at all. Value chain analysis misses the cross-cutting layers — Platform, Infrastructure, Protocol — that enable every chain.

What it misses:

- The Platform layer — tools, parts, equipment — that enables every stage of the chain.
- The Infrastructure layer — power, transport, materials — that enables every stage of the chain.
- The Protocol layer — standards, units, interfaces — that makes every stage of the chain compatible.
- The fractal nature of the stack — the same five-layer structure recurs inside every stage of the chain.

What the Stack sees: A value chain is only as strong as the enabling layers below it. A textile value chain cannot flow if the Platform layer does not provide spinning frames, the Infrastructure layer does not provide reliable power, and the Protocol layer does not provide coherent standards.

3.3 Econometric Modelling

What it does: Uses regression analysis to estimate the relationship between variables — infrastructure spending, credit, education, governance — and industrial output.

Why it misses it: Econometric models treat infrastructure, credit, education, and governance as independent variables that can be traded off against each other. The Industrial Stack shows they are layers with dependencies — Protocol enables Infrastructure, which enables Platform, which enables Aggregator, which enables Producer. You cannot substitute more credit for less power, or more education for less protocol. The layers are not fungible.

What it misses:

- The dependency order — Protocol → Infrastructure → Platform → Aggregator → Producer.
- The leverage rule — each layer below holds power over the layer above it.
- The non-linearity — a small improvement in Protocol can unlock large gains in Infrastructure, Platform, Aggregator, and Producer.
- The threshold effects — below a certain level of Infrastructure reliability, no amount of Producer financing will produce competitive output.

What the Stack sees: The layers are not independent variables. They are a dependent system. You must fix the base before the top can function.

3.4 “Ease of Doing Business” Rankings

What it does: Measures the formal rules and procedures that firms must follow — starting a business, getting permits, paying taxes, trading across borders — and ranks countries accordingly.

Why it misses it: Ease of doing business rankings measure the formal Protocol layer but miss the shadow Protocol layer. They measure what the rules say, not how they are enforced. They measure the number of procedures, not the number of bribes. They measure the time to comply with formal rules, not the time lost to informal negotiations.

What it misses:

- The shadow protocol — the informal rules of connection and payment that compete with the formal one.
- The difference between de jure and de facto — what the law says versus what happens in practice.
- The arbitrary application of rules — the same rule applied differently to different firms.
- The self-reinforcing nature of corruption — officials who profit from delays have no incentive to clear them.

What the Stack sees: The formal Protocol may look reasonable on paper. The shadow Protocol is what determines outcomes. You cannot reform the formal Protocol without addressing the shadow Protocol.

3.5 FDI Attraction Strategies

What it does: Uses tax incentives, free zones, and investment promotion agencies to attract foreign direct investment.

Why it misses it: FDI attraction strategies assume that capital is the binding constraint. But capital will not flow to a country where Infrastructure is unreliable, Platform is absent, and Protocol is captured. FDI follows the stack — it seeks reliable power, functional ports, available skills, and predictable rules. Tax incentives cannot compensate for a wounded base.

What it misses:

- The dependency of FDI on Infrastructure, Platform, and Protocol.
- The difference between FDI that builds productive capacity and FDI that extracts resources or captures the domestic market.
- The role of domestic investment — the majority of industrial investment in any country comes from domestic firms, not foreign ones.
- The fact that free zones cannot insulate firms from the surrounding stack — a factory in a free zone still needs power, transport, and skills.

What the Stack sees: FDI is a flow that depends on the layers below it. You cannot attract FDI by offering tax holidays while the power grid is broken and the ports are congested.

3.6 Industrial Policy Benchmarking (East Asia Comparisons)

What it does: Compares Nigeria's industrial policy to those of successful industrialisers — South Korea, Taiwan, Singapore, China — and recommends similar instruments: export processing zones, directed credit, industrial targeting, technology upgrading.

Why it misses it: East Asian industrial policy worked because those countries had already built, or were simultaneously building, the layers below the Producer. South Korea invested in Infrastructure (power, ports, rail) and Platform (machine tools, heavy industry) before and alongside its Producer-layer interventions. It had a coherent Protocol layer — stable rules, universal standards, low corruption — that made industrial policy effective. Nigeria is trying to implement Producer-layer interventions without the layers below.

What it misses:

- The sequencing — East Asian countries built the base before or alongside the top.
- The Protocol quality — stable rules, universal standards, low corruption — that made industrial policy effective.
- The Infrastructure investment — power, ports, rail — that enabled producers to compete.
- The Platform development — machine tools, heavy industry — that gave producers domestic tools and parts.

What the Stack sees: Industrial policy instruments are not transferable without the layers below them. Export processing zones work in countries with reliable power and functional ports. Directed credit works in countries with coherent financial protocols. Industrial targeting works in countries with a capable state and a coherent Protocol layer.

3.7 SWOT, PESTLE, and Other Diagnostic Frameworks

What it does: List strengths, weaknesses, opportunities, and threats (SWOT) or political, economic, social, technological, legal, and environmental factors (PESTLE).

Why it misses it: SWOT and PESTLE treat factors as discrete items on a list. They do not see the dependencies between them. They do not see that Infrastructure is not one factor among many but the substrate on which all other factors rest. They do not see that Protocol is not one factor among many but the base of the stack. They do not see the leverage rule — each layer below holds power over the layer above it.

What it misses:

- The layered structure of industry — the dependency order.
- The leverage of the base — Protocol and Infrastructure determine what is possible above them.
- The fractal nature — the same structure recurs at every resolution.
- The flow bottlenecks — material, energy, goods, information, money, people.

What the Stack sees: Industry is not a list of factors. It is a stack of layers with dependencies. You cannot understand it by listing its parts. You must understand its structure.

3.8 Political Economy Analysis

What it does: Explains why reform is blocked by identifying the interests that benefit from the status quo — rent-seekers, protected monopolies, corrupt officials.

Why it misses it: Political economy analysis explains why reform is blocked but not what to reform. It identifies the winners from the current equilibrium but does not identify the leverage points in the stack where reform would unlock the most value. It treats corruption as a political problem rather than a Protocol problem. It does not see that the base of the stack — Protocol — is where reform must begin.

What it misses:

- The structural location of the wound — Protocol, not the Producer.
- The scaling of corruption — how a wound at the base scales upward through every layer.
- The leverage points — where a small reform can unlock large gains.
- The difference between reform that redistributes rents and reform that dissolves them.

What the Stack sees: Corruption is a wound on Protocol. Reforming Protocol is not just a political fight against rent-seekers. It is system redesign that dissolves rents by reducing discretion, digitising enforcement, and making rules universal.

3.9 The “Missing Middle” Framing

What it does: Diagnoses the problem as a lack of medium-sized firms between micro-enterprises and large corporations, and recommends financing and support for SMEs to fill the gap.

Why it misses it: The “missing middle” is a symptom, not a cause. Medium-sized firms are missing because the layers below the Producer — Infrastructure, Platform, Protocol — are wounded. A medium-sized firm cannot survive when energy accounts for 50% of overheads, ports take 21 days to clear, and lending rates are 32%. Financing SMEs without fixing the layers below is like giving a man a car when the roads are impassable.

What it misses:

- The dependency of firm size on the enabling layers.
- The fact that large firms like Dangote succeed by building their own stack — bypassing the public one.

- The fact that small firms survive by informalising — exiting the formal Producer layer to avoid the costs imposed by the layers below.
- The structural nature of the problem — it is not a financing gap but a stack failure.

What the Stack sees: The “missing middle” is a symptom of a wounded stack. Fix the base, and the middle will emerge.

3.10 Import Substitution vs. Export Orientation

What it does: Debates whether Nigeria should protect domestic industry from imports (import substitution) or orient industry toward export markets (export orientation).

Why it misses it: Both strategies assume that the Producer layer is the locus of the problem. Import substitution assumes that domestic producers can compete if protected. Export orientation assumes that domestic producers can compete if exposed to global markets. Neither addresses the layers below the Producer. A protected producer with unreliable power and congested ports will still fail. An export-oriented producer with unreliable power and congested ports will still fail.

What it misses:

- The dependency of Producer competitiveness on Infrastructure, Platform, and Protocol.
- The fact that protection and export orientation are Producer-layer instruments that cannot compensate for a wounded base.
- The fact that the most successful industrialisers — South Korea, Taiwan, China — built the base before or alongside the top.
- The fact that Nigeria's problem is not the orientation of its Producer layer but the condition of its enabling layers.

What the Stack sees: The debate between import substitution and export orientation is a Producer-layer debate. The real question is the condition of the layers below. Fix the base, and either strategy can work. Leave the base wounded, and neither will.

3.11 The Binding Constraints Literature

What it does: Identifies the most binding constraint on growth — infrastructure, credit, skills, governance — and recommends targeting it.

Why it misses it: The binding constraints literature is closer to the Industrial Stack than most conventional tools. It recognises that some constraints are more binding than others. But it treats constraints as discrete variables rather than layered dependencies. It does not see that Protocol is the base of the stack — the constraint that determines which other constraints are binding. It does not see that Infrastructure is the substrate on which all other layers rest. It does not see the leverage rule — each layer below holds power over the layer above it.

What it misses:

- The dependency order — Protocol → Infrastructure → Platform → Aggregator → Producer.
- The fact that some constraints are not independent — you cannot fix Infrastructure without fixing Protocol.
- The fact that the binding constraint is often at the base of the stack, not at the top.
- The fact that the Producer is the most exposed position — it absorbs the failures of every layer below.

What the Stack sees: The binding constraint is not a variable to be identified but a layer to be diagnosed. Start at the Producer. Descend until you find the constraint. The constraint is usually at the base — Protocol or Infrastructure.

3.12 What All Conventional Tools Share

All conventional tools share a common flaw: they treat industry as a set of sectors, variables, or constraints rather than a stack of enabling layers. They measure outcomes at the Producer layer without descending to the layers that determine those outcomes. They miss the dependency order, the leverage rule, the fractal nature, and the flow bottlenecks. They miss the wound on Protocol and the scaling of corruption.

What the Stack sees that conventional tools miss:

- The dependency order: Protocol → Infrastructure → Platform → Aggregator → Producer.
- The leverage rule: each layer below holds power over the layer above it.
- The fractal nature: the same five-layer structure recurs at every resolution.
- The flow bottlenecks: material, energy, goods, information, money, people.
- The wound on Protocol: corruption is not a background condition but a direct wound on the base that scales upward.
- The exposed Producer: the Producer is the most exposed position because every layer below can squeeze it.
- The powerful Protocol: Protocol is the most structurally powerful position because it has no layer below it to be squeezed by.
- The diagnostic rule: start at the Producer. Descend until you find the constraint.

4 Flow Diagnostics: Where Things Stall

The Industrial Stack identifies six flows: material, energy, goods, information, money, and people. The NIP 2025 addresses none of their bottlenecks systematically. Each flow has properties — rate, latency, reliability, cost, quality, flexibility — that are affected differently by each layer.

4.1 Material Flow

What moves: Ore, concentrate, metal, chemicals, assemblies, agricultural commodities.

From: Extraction.

To: Finished product.

Bottlenecks:

- Nigeria remains import-dependent for industrial inputs — steel, aluminium, chemicals, components.
- FX volatility and customs rate changes (100+ times between 2024 and 2025) lift input prices by 120%.
- Port dwell times of 18–21 days delay raw material arrivals and raise inventory costs.
- Road and rail deficiencies raise the cost of moving material from ports to factories.
- Domestic extraction is underdeveloped — mining contributes less than 1% of GDP despite vast mineral resources.

Consequences:

- Input prices up 120%.
- Production uncompetitive.
- Working capital consumed by inventory and delays.
- Manufacturers shift to trading — importing finished goods rather than making them.

Layer diagnosis:

- Protocol: Customs FX volatility, multiple taxes, certification delays.
- Infrastructure: Port congestion, road and rail deficiencies, unreliable power.
- Platform: Absence of domestic materials processing — steel, aluminium, chemicals.
- Aggregator: Logistics paralysis, checkpoints, extortion.

4.2 Energy Flow

What moves: Primary energy, converted energy, delivered energy.

From: Generation.

To: Consumption.

Bottlenecks:

- Grid delivers <5,400 MW for over 220 million people.
- Energy accounts for 50% of manufacturing overheads.
- 200+ major companies self-generate >6,000 MW — more than the national grid delivers.

- Manufacturers spent ₦1.34 trillion on alternative power in 2025.
- Gas supply is unreliable — gas producers prefer to export or flare rather than supply domestic industry.
- Transmission and distribution infrastructure is dilapidated.

Consequences:

- Unreliable and costly power.
- Manufacturers pay a premium for self-generation.
- Productivity and competitiveness eroded.
- Investment deterred.

Layer diagnosis:

- Protocol: Incoherent energy policy, unclear gas pricing, captured contracts.
- Infrastructure: Generation, transmission, and distribution capacity insufficient.
- Platform: Absence of domestic energy equipment manufacturing — turbines, transformers, boilers.
- Aggregator: Inefficient energy trading and distribution.

4.3 Goods Flow

What moves: Finished and semi-finished products.

From: Production.

To: Use.

Bottlenecks:

- Port dwell times of 18–21 days delay exports and imports.
- Freight costs up 85%.
- Roads account for more than 90% of internal cargo transport; 30% of federal roads require major rehabilitation.
- Rail freight is limited and unreliable.
- Checkpoints and extortion raise costs and lengthen lead times.
- It is often cheaper to ship goods from China to Lagos than from Lagos to Kano.

Consequences:

- Working capital dies in the harbour.
- Goods cannot reach market competitively.
- Domestic goods are displaced by imports.
- Export competitiveness eroded.

Layer diagnosis:

- Protocol: Customs delays, multiple taxes, checkpoints, extortion.
- Infrastructure: Port congestion, road and rail deficiencies.
- Platform: Absence of domestic logistics equipment manufacturing — trucks, cranes, containers.
- Aggregator: Logistics paralysis, fragmented market, weak enforcement of standards.

4.4 Information Flow

What moves: Designs, specs, orders, schedules, control signals, feedback.

From: Demand.

To: Supply and back.

Bottlenecks:

- Weak ICT systems and cumbersome border procedures slow trade facilitation.
- Data is not shared between agencies — customs, ports, standards, tax.
- Manual processes dominate — paper documents, physical signatures, face-to-face negotiations.
- Broadband penetration is low; internet quality is poor.
- Digital infrastructure — data centres, cloud services, cybersecurity — is underdeveloped.

Consequences:

- Coordination costs rise.
- Delays multiply.
- Corruption opportunities increase — discretionary manual processes are easy to capture.
- Innovation and upgrading are slowed.

Layer diagnosis:

- Protocol: Incoherent data standards, lack of interoperability, manual processes.
- Infrastructure: Weak broadband, unreliable power, underdeveloped digital infrastructure.
- Platform: Absence of domestic industrial software — CAD, CAM, ERP, MES.
- Aggregator: Fragmented information systems, no single window.

4.5 Money Flow

What moves: Payments, credit, capital, insurance.

From: Buyer.

To: Seller and back.

Bottlenecks:

- Lending rates average 32%; prime rates 27–30%.
- Manufacturing credit contracted by ₦1.92 trillion (22.5%) between December 2024 and December 2025.
- The 45% CRR cuts bank credit to manufacturing by nearly ₦2 trillion.
- The ₦1 trillion Manufacturing Stabilisation Fund remains unreleased.
- Banks prefer risk-free government securities to lending to manufacturers.
- FX volatility and multiple exchange rates create uncertainty and arbitrage opportunities.
- Insurance penetration is low; risk mitigation is weak.

Consequences:

- Manufacturers cannot expand or modernise.
- Working capital consumed by high interest payments.
- SMEs priced out of credit market.
- Investment deterred.

Layer diagnosis:

- Protocol: Incoherent monetary policy, multiple exchange rates, captured credit allocation.
- Infrastructure: Weak financial infrastructure — payment systems, credit registries, collateral registries.
- Platform: Absence of domestic financial software and analytics.
- Aggregator: Inefficient financial intermediation, high spreads, risk aversion.

4.6 People Flow

What moves: Labor, skills, knowledge, organization.

From: Workforce.

To: Production.

Bottlenecks:

- 53% of Nigerians aged 18–35 are unemployed or in non-productive employment.
- 4.2 million young Nigerians enter the labour market annually; the formal economy generates ~650,000 jobs — a structural deficit of 3.5 million per year.
- 14.4% of people aged 15–24 are neither in employment, education, nor training.
- Universities produce 2.1 million graduates annually in fields the labour market has not demanded for a decade.
- Manufacturers hunt for machinists, technicians, and fabricators they cannot find.
- Industrial Training Fund operates at <30% of mandated coverage.
- National Directorate of Employment has not produced a publicly audited placement report since 2019.

Consequences:

- Skills shortages constrain production.
- Manufacturers import expertise or train workers themselves.
- Productivity remains low.
- Demographic dividend becomes demographic risk.

Layer diagnosis:

- Protocol: Misaligned curriculum, corrupted certification, weak labour market information.
- Infrastructure: Poor transport and housing limit labour mobility.
- Platform: Absence of domestic industrial ecosystem to employ and develop technical skills.
- Aggregator: Inefficient labour market matching, weak job placement services.

4.7 Summary of Flow Diagnostics

Flow	Bottleneck	Consequence	Layer Diagnosis
Material	Import dependence, FX volatility, port delays	Input prices up 120%; production uncompetitive	Protocol, Infrastructure, Platform, Aggregator
Energy	Grid <5,400 MW; 50% of overheads	~~₦~~ 1.34tn spent on alternative power in 2025	Protocol, Infrastructure, Platform
Goods	Port dwell 18–21 days; freight up 85%	Working capital dies in harbour	Protocol, Infrastructure, Aggregator
Information	Weak ICT; manual processes	Coordination costs rise; corruption opportunities increase	Protocol, Infrastructure, Platform
Money	Lending rates 32%; credit contracted ~~₦~~ 1.92tn	Manufacturers cannot expand or modernise	Protocol, Infrastructure, Platform
People	53% youth unemployment; skills mismatch	3.5 million annual job deficit; engineering shortage	Protocol, Platform, Aggregator

The policy's targets assume that if financing is available, flows will move. But flows are constrained by the layers below. Material cannot flow when ports are congested. Energy cannot flow when the grid is broken. Money cannot flow when banks prefer government securities. People cannot flow when skills are misaligned with industry needs.

5 The Dangote Paradox: Proof and Warning

5.1 What Dangote Actually Did

Dangote Refinery is proof of what the Industrial Stack can produce when someone builds a private stack within a broken public one. Aliko Dangote did not succeed because Nigeria's industrial stack worked. He succeeded because he could bypass it.

Protocol:

- He had the political access and legal firepower to navigate 60+ taxes, FX volatility, and regulatory delays that would kill a smaller firm.
- He could wait out 100+ customs rate changes.
- He could absorb the costs of certification delays and multiple taxation.
- He could negotiate directly with governments and agencies.

Infrastructure:

- He built his own jetty, power plant, and internal roads because the public ones could not serve a \$20bn facility.
- He did not rely on the grid. He became his own substrate provider.
- He built port infrastructure to receive crude and ship products.
- He built tank farms and depots across Nigeria.

Platform:

- He imported the machinery, the engineers, and the spare parts.
- He did not depend on a domestic machine tool industry, because there isn't one.
- He built a self-contained industrial complex with its own utilities, logistics, and maintenance.

Aggregator:

- He secured his own crude supply, his own shipping, his own off-take.
- He deployed over 4,000 GPS-enabled trucks and established private depots across Nigeria, bypassing the nation's crippled pipelines.
- He did not need the port to work for him — he built around it.
- He integrated vertically and horizontally to control his own logistics.

Producer:

- Only at this layer did he operate as a conventional industrialist.
- He built a 650,000 bpd refinery — the largest single-train refinery in the world.
- He produced at scale, for Nigeria and for export.

5.2 The Fractal Stack Within the Stack

Dangote built a fractal stack inside the Nigerian stack — a complete five-layer system of his own — because the public one was too wounded to carry him.

Layer	Dangote's Private Stack	Nigeria's Public Stack
Protocol	Negotiated directly with government; absorbed delays; absorbed taxes	Fragmented, incoherent, captured
Infrastructure	Built own jetty, power plant, roads, tank farms, depots	Grid <5,400 MW; ports 18–21 days; roads decayed
Platform	Imported machinery, engineers, spare parts	One machine tool company; no parts supply chain
Aggregator	Own crude supply, shipping, off-take, 4,000 trucks	Logistically paralysed; checkpoints, extortion
Producer	650,000 bpd refinery	Falling GDP share; closing factories

That is why the masses celebrated. It was proof that a Nigerian can build at world scale. But it was also proof that you need to be one of Africa's richest men to do it.

5.3 The Warning

Proof: Nigeria has the talent, the capital, and the resolve to build at world scale.

Warning: If only one man in 220 million can pull it off, the system is not working. It is filtering.

The task is not to create more Dangotes. It is to make the Dangote move — build something at scale, from Nigeria, for Nigeria and beyond — possible at every level:

- A hundred small refineries, food processors, and fabricators instead of one giant.
- A thousand machine shops instead of one machine tool company.
- Ten thousand reliable power connections instead of one private jetty.
- A million small firms that can access credit at reasonable rates instead of one conglomerate that can self-finance.

That is what a cleared stack looks like. Not one tree in a desert. A forest.

5.4 What the Dangote Move Requires

For the majority to pull a Dangote move at their own levels, the base must be cleared:

- Protocol: Stable rules, digitised enforcement, transparent contracts, harmonised taxes.
- Infrastructure: Reliable power, functional ports, connected transport.
- Platform: Domestic tools, parts, and skills.
- Aggregator: Efficient matching and logistics.
- Financial system: Affordable credit for production.
- Educational system: Skills aligned with industry demand.

When the base is level, a small fabricator in Aba can compete with a small fabricator in Guangzhou on cost of production, not just on grit. A young engineer in Nnewi can buy a lathe, power it reliably, and sell into a market that is not strangled by port delays. A woman in Kano can process food and move it to market without losing her capital to logistics.

5.5 The Political Economy of Clearing the Base

The base is not unclear by accident. It is unclear because someone profits from the wound:

- The port delays are income for clearing agents and officials.
- The FX volatility is income for arbitrageurs and connected importers.
- The 60+ taxes are income for subnational governments and informal enforcers.
- The power failure is income for generator sellers, diesel suppliers, and those who control allocation.
- The certification delays are income for officials who expedite files.
- The checkpoints are income for informal enforcers.

Clearing the base is not a technical exercise. It is a political fight against a rent-extraction equilibrium. Dangote could bypass it because he could pay the rents and still profit at scale. The majority cannot.

That is why leveling the base is not just industrial policy. It is redistribution of access — and it will be resisted. The fight is not against individuals. It is against a system. The system must be redesigned so that rents dissolve — not just redistributed.

6 Recommendations

6.1 Protocol First: Heal the Base

The Protocol layer is the most structurally powerful position in the stack because it has no layer below it to be squeezed by. It is also the most wounded. Reforming Protocol is not a moral campaign. It is system redesign.

Recommendation 1: Enact the NIP 2025 into law.

- MAN has called for this repeatedly to provide certainty around industrial incentives and prevent policy reversal with political cycles.
- A law is harder to reverse than a policy document.
- The law should include specific targets, timelines, and accountability mechanisms.
- It should also include provisions for regular review and adjustment.

Recommendation 2: Digitise and automate customs and FX.

- Reduce human discretion at ports, borders, and certification bodies.
- Stable customs FX rates for at least 12 months at a time.
- Automated clearance systems that cannot be bribed.
- Single window for trade documentation.
- Electronic payment of duties and taxes.
- Real-time tracking of cargo and clearance status.

Recommendation 3: Harmonise subnational taxes.

- The 60+ taxes and illegal haulage levies must be consolidated into a single, transparent schedule.
- No checkpoint should be a revenue stream for informal enforcers.
- Federal and state governments must agree on a harmonised tax regime for industry.
- Enforcement must be uniform and digitised.

Recommendation 4: Reform certification protocols.

- SONCAP certificates and NAFDAC registration must be faster, cheaper, and digitised.
- A \$2,000 certificate and a 120-day wait are tolls, not standards.
- Certification should be risk-based — low-risk products should have fast-track approval.
- Mutual recognition of international certifications should be expanded.

Recommendation 5: Adopt open contracting and beneficial ownership transparency.

- Publish all infrastructure contracts.
- Disclose beneficial ownership.
- Make corruption visible and costly.
- Use open contracting data standards.
- Publish contract awards, implementation, and performance data.

Recommendation 6: Stabilise the financial protocol.

- Reduce the 45% CRR to free up bank credit for manufacturing.
- Operationalise the ₦1 trillion Manufacturing Stabilisation Fund at 9% interest.
- Ensure MPR cuts transmit to lending rates.
- Create a dedicated FX window for critical raw materials and heavy machinery.
- Mandate a percentage of bank credit to manufacturing, with penalties for non-compliance.
- Reform the financial protocol to reward production over arbitrage.

Recommendation 7: Align the educational protocol with industry demand.

- Industry must commit to real job roles 12 months in advance.
- Universities and polytechnics must redesign final-year programmes to match those roles — six months classroom, six months factory floor.
- Bring back foundry technology, machine tools practice, and mechatronics into mainstream technical training.
- Reform certification to ensure that credentials are universal, verifiable, and trusted by employers.
- Operationalise the Industrial Training Fund to reach its mandated coverage.
- Publish audited placement reports from the National Directorate of Employment.

6.2 Infrastructure: Secure the Substrate

Infrastructure is the binding constraint. Without reliable power and functional ports, no amount of industrial financing will produce competitive factories.

Recommendation 8: Guarantee reliable power to industrial clusters.

- Even 12 hours a day of reliable supply would transform production.
- Prioritise industrial parks and clusters for uninterrupted supply.
- The Apapa and Onne port IPPs are a start — 36 MW and 50 MW respectively — but they must be scaled.
- Reform the gas supply protocol to prioritise domestic industrial use.
- Invest in transmission and distribution infrastructure.
- Encourage decentralised generation and mini-grids for industrial clusters.

Recommendation 9: Reduce port dwell time to under five days.

- Automate port operations.
- Implement a single window for trade documentation.
- Remove checkpoints and extortion from port corridors.
- The cost of delay is measured in billions of naira in demurrage and lost working capital.
- Invest in port equipment — cranes, gantries, straddle carriers.
- Digitise customs clearance and payment.

Recommendation 10: Build rail and road corridors that connect production to markets.

- The Lagos–Kano corridor is critical.
- Rail must move freight, not just passengers.
- Roads must be maintained, not just built.
- Invest in the East-West Road and other critical freight corridors.
- Develop inland container depots and dry ports.

Recommendation 11: Create shared industrial parks with common utilities.

- Small firms cannot each build their own jetty or power plant.
- Shared infrastructure lowers the entry barrier for the majority.
- Industrial parks should include reliable power, water, transport, and logistics.
- They should be located near ports, rail, and markets.
- They should be managed professionally and transparently.

6.3 Platform: Build the Tools

The Platform layer is Nigeria's weakest structural link. Without a domestic Platform layer, the Producer remains an assembler of imported components.

Recommendation 12: Revive domestic machine tool and parts manufacturing.

- Not one company, but a sector.
- Nigeria Machine Tools Limited cannot supply a nation.
- The NIP must include a dedicated machine tools and components strategy with financing, skills, and demand guarantees.
- Partner with international machine tool companies for technology transfer.
- Create a machine tool development fund.
- Guarantee demand from government and large manufacturers.

Recommendation 13: Create shared equipment and metrology centres.

- Small firms cannot afford precision measurement, CNC machining, or testing equipment.
- Shared centres allow access without ownership.
- Establish centres in industrial clusters across the country.
- Equip them with CMMs, laser scanners, optical comparators, surface profilometers, hardness testers, spectrometers, and NDT equipment.
- Train technicians to operate and maintain the equipment.

Recommendation 14: Build a spare parts and components supply chain.

- Every bolt, bearing, and gearbox should not be imported.
- Develop domestic suppliers for fasteners, seals, bearings, and subassemblies.
- Create a components manufacturing cluster with shared facilities and quality infrastructure.
- Partner with international component manufacturers for technology transfer.
- Guarantee demand from large manufacturers and government.

Recommendation 15: Develop domestic industrial software.

- CAD, CAM, CAE, PLM, MES, ERP, and digital twin software are all imported.
- Support domestic software firms to develop industrial applications.
- Partner with international software vendors for localisation and technology transfer.
- Include industrial software in the curriculum of technical universities.
- Create a fund for industrial software development.

6.4 Aggregator: Clear the Routes

The Aggregator layer is logistically paralysed. Clearing it requires physical and procedural reform.

Recommendation 16: Remove checkpoints and extortion from port corridors.

- The Presidential Enabling Business Environment Council has documented the problem.
- Enforcement must be sustained, not episodic.
- Digitise enforcement — use technology to monitor and report checkpoints.
- Punish officials and informal enforcers who extort.
- Publish data on checkpoints and extortion.

Recommendation 17: Digitise logistics documentation.

- EDI standards, electronic manifests, and digital customs declarations reduce human contact and delay.
- Implement a single window for all trade documentation.
- Use blockchain or distributed ledger technology for supply chain transparency.
- Integrate customs, ports, shipping lines, and logistics providers into a single digital platform.

Recommendation 18: Develop a national logistics strategy.

- Logistics alone decomposes into modes, services, functions, and regions. Each has its own market structure and bottlenecks.
- A national logistics strategy should address all modes — truck, rail, ocean, air — and all functions — brokerage, forwarding, customs, warehousing.
- It should include performance targets for dwell time, freight costs, and reliability.
- It should be coordinated across federal and state governments.

6.5 Producer: Finance What Can Flow

Only after Protocol, Infrastructure, and Platform are addressed should the Producer be financed at scale. The NIP's financing instruments are necessary but not sufficient.

Recommendation 19: Condition industrial financing on infrastructure readiness.

- A factory without power is a stranded asset.
- Financing should prioritise industrial clusters where power, transport, and logistics are functional.
- Provide incentives for manufacturers to locate in areas with reliable infrastructure.
- Invest in infrastructure in priority industrial clusters.

Recommendation 20: Enforce the “Nigeria First” procurement policy.

- Government purchasing power can create demand for locally produced goods.
- This must be enforced, not aspirational.
- Set targets for local content in government procurement.
- Publish data on local content compliance.
- Penalise non-compliance.

Recommendation 21: Support export-oriented manufacturing.

- Nigeria's market is large, but export markets are larger.
- Support manufacturers to meet international standards and access export markets.
- Negotiate favourable trade agreements under AfCFTA.
- Provide export credit and insurance.
- Invest in trade infrastructure — ports, rail, roads.

6.6 Implementation and Sequencing

The recommendations should be implemented in sequence, with Protocol first, then Infrastructure, then Platform, then Aggregator, then Producer. But sequencing does not mean waiting. Some reforms can proceed in parallel.

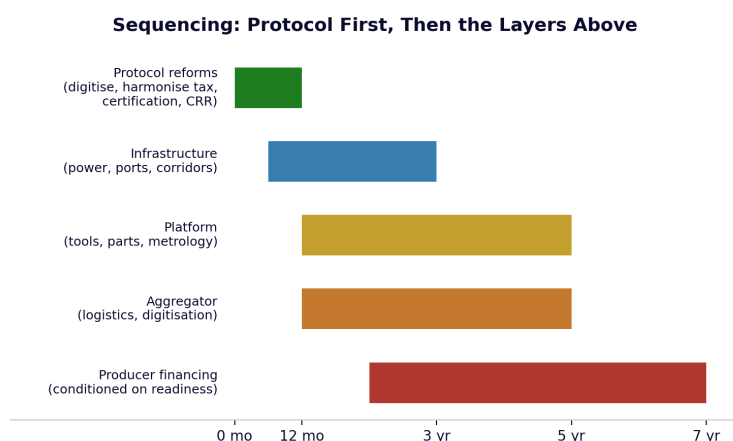


Figure 6.1 — Sequencing of reform: Protocol reforms begin immediately; each higher layer follows as the one below it stabilises.

Immediate (0–12 months)

- Enact NIP 2025 into law.
- Digitise customs and FX.
- Harmonise subnational taxes.
- Reform certification.
- Adopt open contracting.
- Reduce CRR.
- Operationalise Manufacturing Stabilisation Fund.
- Align educational curriculum with industry demand.

Short-term (1–3 years)

- Guarantee reliable power to industrial clusters.
- Reduce port dwell time.
- Build rail and road corridors.
- Create shared industrial parks.
- Revive machine tool and parts manufacturing.
- Create shared equipment and metrology centres.
- Remove checkpoints and extortion.

- Digitise logistics documentation.

Medium-term (3–5 years)

- Build a spare parts and components supply chain.
- Develop domestic industrial software.
- Develop a national logistics strategy.
- Condition industrial financing on infrastructure readiness.
- Enforce “Nigeria First” procurement.
- Support export-oriented manufacturing.

Long-term (5–10 years)

- Sustain and deepen all reforms.
- Monitor and evaluate progress.
- Adjust as needed.
- Build a forest, not just a tree.

6.7 Accountability and Monitoring

- Establish an independent Industrial Policy Council to monitor implementation.
- Publish annual progress reports.
- Use open data and transparency to hold implementers accountable.
- Include civil society, academia, and industry in monitoring.
- Set clear targets and timelines.
- Penalise non-compliance.

7 Conclusion: Level the Base

Nigeria has potential. But potential is not a result. The NIP 2025 reads the stack from the top down — Producer first — and stops there. It finances the seed and ignores the soil. It treats corruption as a background condition rather than a wound on Protocol that scales upward through every layer. It ignores the bottlenecks to flow. It does not address the financial system or the educational system as Protocol sub-layers that require the same structural reform as the base.

The diagnosis is clear:

- Protocol is captured. Reforming it is the first and most important step.
- Infrastructure is the binding constraint. Power and ports must work.
- Platform is structurally absent. A nation cannot industrialise without tools.
- Aggregator is logistically paralysed. Ports and roads prevent efficient routing.
- Producer absorbs all these failures. Manufacturing GDP share is falling, not rising.
- Flows are stalled — material, energy, goods, information, money, and people cannot move.
- The financial and educational systems are Protocol sub-layers that require the same reform as the base.

Dangote proved what one man can do when he builds his own stack. The task now is to make the public stack work so that millions can do it at their own scale.

Start at the base. Clear Protocol. Level Infrastructure. Build Platform. Then the seeds will grow. Until then, Nigeria remains a seed that never becomes a tree — not because the seed is weak, but because the soil is wounded.

The policy did the first — it looked at the Producer. It must now do the second — it must descend to the Protocol. And it must recognise that the wound at the base is not just a scourge. It is the thing that determines whether everything above it lives or dies.

References

This report synthesises only publicly available information. Sources are grouped by theme below, in the order in which the underlying claims appear in the report.

1. Nigeria Industrial Policy 2025: Targets and Instruments

1. Nigeria Industrial Policy (NIP) 2025–2035. Federal Ministry of Industry, Trade and Investment. Targets: 15% manufacturing GDP contribution by 2030 and 25% by 2035; 5% of annual GDP committed to industrial development; ₦3 trillion Bank of Industry recapitalisation. Cited in: BACITI Economic Insight, Nigerian Institute of International Affairs (NIIA).
2. BusinessDay (2026, March 10). “From blueprint to blast furnace: Can the new plan finally turn policy into production?” BusinessDay NG.
3. Nairametrics (2026, January 16). “FG introduces industrialisation policy to boost manufacturing.” Nairametrics.
4. BusinessDay (2026, January 16). “Nigeria unveils industrialisation policy to boost jobs, value addition.” BusinessDay NG.

2. Manufacturing GDP Share and Industrial Growth

5. National Bureau of Statistics (NBS) data, cited in Leadership (2026, September 3). “Manufacturing GDP Drops On Low Lending Despite Banks' N4.65trn Recapitalisation.” Leadership. Manufacturing share fell from 9.57% in Q1 2026 to 7.72% in Q2 2026; from 7.81% in Q2 2025.
6. National Bureau of Statistics (NBS) data, cited in BusinessDay (2026, September 2). “Renewed optimism powers Nigeria manufacturing growth to 3.2%.” BusinessDay NG.
7. National Bureau of Statistics (NBS) data, cited in Advocate (2026, September 20). “Go Local Summit 2.0 charts Nigeria's path to industrialisation.” Industrial growth slipped from 7.46% in Q2 2025 to 3.96% in Q2 2026.
8. Manufacturers Association of Nigeria (MAN), cited in Newswatch (2026, September 4). “Nigeria's 4.43% Q2 growth Masks Deepening Industrial Crisis.” Real manufacturing growth eased from 3.29% to 3.24%.
9. Manufacturers Association of Nigeria (MAN), cited in Independent (2026, September 4). “MAN Warns Nigeria's Economic Growth Remains Fragile.”

3. Deindustrialisation and Sectoral Concentration

10. Nigerian Economic Summit Group (NESG) (2026, March 8). 2025 Q4 GDP Alert. Cited in Nairametrics: “NESG warns of growing deindustrialisation as Nigeria's manufacturing sector remains weak.” Manufacturing remains concentrated in a few subsectors — Food, Beverages & Tobacco, Cement, and Textiles account for ~74% of output.
11. NESG (2025 Q4). GDP Alert. “Manufacturing topped the list of growth stagnators, each contributing less than 4–5 percent to economic expansion in the quarter.”
12. NESG (2025, August 7). “Shrinking Industrial Base, Dominant Informal Sector Undermine Economic Growth.” Leadership.
13. Vanguard (2025, August 25). “ECONOMY: Declining manufacturing, agric sectors threaten Nigeria's industrialisation.” Vanguard. “Nigeria struggling with de-industrialisation, says NESG.”

4. MSME Closures and Business Distress

14. BusinessDay (2026, July 28). “Implementation gap puts Nigeria's industrial policy goals at risk.” BusinessDay NG. “Eight million MSMEs shut down in 18 months... between January 2023 and June 2024, wiping out nearly 20% of the country's estimated 40 million SMEs.”
15. The Sun (2026, July 30). “Oye raises alarm as 8m businesses collapse in 18 months.” The Sun.
16. BusinessDay (2024, September 8). “SMEs battle to survive amid economic turmoil.” BusinessDay NG.

5. Textile Sector Capacity Utilisation

17. BusinessDay (2026, August 19). “Textile manufacturers utilise just 53% capacity as Nigeria's production crisis deepens.” BusinessDay NG. Textile capacity utilisation: 53.05% in 2025, up from 50.72% in 2024.
18. Global Textile Times (2026, August 20). “Nigeria Textile Industry Runs at Just 53% Capacity in 2025.”

6. Port Dwell Times and Logistics Paralysis

19. DredgeWire (2026, March 25). “Nigeria bets on digital overhaul and port upgrades to tackle one of the world's slowest ports.” DredgeWire. “Cargo dwell times at Nigerian ports average between 18 and 21 days, among the highest globally and far above the roughly four-day benchmark.”
20. Al Jazeera (2025, June 15). “AfCFTA: BACITI Urges FG To Boost Port, Trade Efficiency.” Aljazeera News. Nigeria ranked 311 out of 370 globally in port efficiency (World Bank 2023 Container Port Performance Index). Lagos ports average dwell times of 18–20 days.
21. BusinessDay (2026, September 5). “Nigeria's National Single Window Faces Its Real Test: Execution.” BusinessDay NG. Containers remain for 20–21 days; global standard is less than five days.
22. World Bank (2023). Container Port Performance Index.

7. Power Generation and Energy Costs

23. BusinessDay (2026, September 24). “Nigeria's power generation hits 5,403.3MW, as DisCos get 4,397.07MW for distribution.” BusinessDay NG. Available generation: 5,403.3 MW; delivered to DisCos: 4,379.07 MW.
24. The Sun (2026, September 24). “5,403MW electricity peak generation exposes Nigeria's...” The Sun.
25. Energy Innovation Review (2026, August 22). “Nigeria's energy gamble: 80% access pledge meets harsh reality.” Manufacturers shoulder 30–40% of production costs through self-generation. Nigerian businesses spent N16.5 trillion on self-generation.

8. Corruption at Ports

26. Maritime Anti-Corruption Network (MACN) and Convention on Business Integrity (CBI), cited in Ships & Ports (2026, April 2). “MACN, CBI log 455 'large cash unreceipted payments' at Nigerian ports.”
27. MACN, cited in The Sun (2025, November 18). “Maritime graft cases dip by 89% in 5 years.” Unregistered cash demands dropped from 266 in 2019 to 30 in 2024.
28. Guardian (2025, November 19). “CRFFN, CBI sign pact to tackle corruption in logistics chain, ports.” Guardian. In 2019, MACN documented 266 cases of demands for large, unreceipted cash payments by officials.
29. Basel Governance (2024, December 6). “How targeting maritime corruption can save and generate millions annually.”
30. Global Legal Insights (2024, June 19). “MACN report exposes extent of corruption at Nigerian ports.” Corruption adds 15% to the cost of critical imports.

9. Manufacturing Credit Contraction and Lending Rates

31. Manufacturers Association of Nigeria (MAN) data, cited in BusinessDay (2026, September 7). “Banks' loans to manufacturers plunge 22.5% to N6.6trn.” BusinessDay NG. Manufacturing credit fell from ~~N~~8.53 trillion (December 2024) to ~~N~~6.61 trillion (December 2025) — a contraction of ~~N~~1.92 trillion (22.5%).
32. Leadership (2026, June 23). “Bank Credit To Manufacturing Sector Drops N1.92trn.” Leadership.
33. Tribune (2026, June 29). “Credit allocation drops by N1.92trn in 2025, despite banks' N26.3trn revenue record.”
34. BusinessDay (2026, September 18). “Manufacturers seek N1trn stabilisation fund to save shrinking factories.” BusinessDay NG. Short-term lending rates averaging 32%; bank credit to sector fell by nearly ~~N~~2 trillion.
35. Punch (2026, September 22). “Manufacturers' loan costs jump 53% as credit falls.” Punch. Average interest rate: 32.2% in 2025, compared with 21% in 2020.
36. Independent (2026, September 2). “Manufacturers Face 32% Loan Interest Rates Amid Economic Easing.” Independent. Average rate: 32.1% in 2025, down from 35.6% in 2024.

10. Customs FX Volatility and Multiple Taxation

37. Guardian (2024, August 21). “Customs' spot rates adoption: Duty FX rates shift 100 times in 2024, spike prices of goods by 120%.” Guardian. Import duty rates changed 28 times in Q1 2024 and 42 times in Q2 2024.
38. BusinessDay (2026, September 23). “Nigeria manufacturers urge system reforms to halt factory closures.” BusinessDay NG. Customs FX rate changes exceeded 100 times between 2024 and 2025, lifting input prices by 120%.
39. Parrot Media (2026, January 16). “Nigeria to introduce single-digit tax regime, FG tells manufacturers.” Some state governments impose between 60 and 197 different taxes and levies.
40. LinkedIn / Chika Onyekwere (2026, January 16). “Nigeria Tax Reform Highlights for Manufacturers.” Multiplicity of taxes: between 60 and 197 depending on the state.

11. Certification Bottlenecks

41. World Trade Organization (WTO). Trade Policy Review: Nigeria. Administrative fees: USD 500–2,000 for product certificate (NAFDAC); USD 350 for SONCAP certificate.
42. Standards Organisation of Nigeria (SON). SONCAP Fee Schedule. Product Certificate (Unregistered): \$500; (Registered): \$1,000; (Licenced): \$2,000; SONCAP Certificate: \$350.
43. SAMED (2025). “SONCAP Certification Process.” Laboratory analysis timeline: 120 working days; NAFDAC payment: ~\$700; license valid for 5 years.

12. Youth Unemployment and Skills Mismatch

44. National Bureau of Statistics (NBS), cited in BusinessDay (2026, April 27). “Nigeria is producing graduates faster than it produces jobs. The gap is not a talent deficit. It is a policy failure.” BusinessDay NG. 53% of Nigerians aged 18–35 are unemployed or in non-productive employment; 4.2 million young Nigerians enter the labour market annually.
45. Guardian (2025, July 20). “‘High youth unemployment fueling insecurity in Nigeria'.” Guardian. Over 53% of young Nigerians aged 18–35 are unemployed or underemployed.
46. Plan International Nigeria & ActionAid Nigeria (2025). State of the Nigerian Youth Report 2025. Youth unemployment: 53% (~80 million young Nigerians).

47. BusinessDay (2026, July 22). “Why Nigeria cannot grow its way out of youth unemployment.” BusinessDay NG.

13. Infrastructure Gap

48. Infrastructure Concession Regulatory Commission (ICRC) (2026, July 20). “Nigeria Pushes Bold Infrastructure Financing Reform as \$2.3tn Deficit Deepens.” Nigeria's infrastructure gap estimated at \$2.3 trillion.
49. BusinessDay (2025, October 7). “Closing the gap in infrastructure with vision, action.” BusinessDay NG. Nigeria's infrastructure stock: ~30–35% of GDP, far below the 70% benchmark for middle-income nations.
50. BusinessDay (2026, April 16). “Nigeria targets \$100bn annual infrastructure spend, turns to PPPs to close gap.” BusinessDay NG. Infrastructure deficit: \$2.3 trillion between 2020 and 2043.

14. Machine Tools and the Industrial Base

51. UNIDO. Nigeria Industrial Sector Assessment. “Only one machine tools manufacturer operates in Nigeria: NMT – Nigerian Machine Tools Ltd., Oshobo. Established in joint-venture with Hindustan Machine Tools (India). Production consisted of SKD assembly totally imported from India. Since its establishment the company has experienced losses.”
52. Nigeria Machine Tools (NMTL). Company history: Established 1980; 45 years of experience; integrated engineering and manufacturing; oil & gas, manufacturing, construction, marine industries.
53. NMTL (2025, August 25). “Building Nigeria's Industrial Future: Why Technical Training Schools Hold the Key to Stemming Youth Migration.” NMTL is “the nation's first indigenous machine tools manufacturer.”

15. Dangote Refinery: Private Capacity Within a Broken System

54. Guardian (2025, June 7). “10 key facts about the Dangote Refinery.” Guardian. 650,000 bpd integrated refinery in Lekki Free Zone; equipped with a 435 MW power plant; can meet energy needs independently and supply surplus power to nearby regions.
55. The Energy Year (2023, May 19). “Infographic: Nigeria's Dangote Refinery project.” Input capacity: 650,000 bpd; power: 570 MW; daily consumption: 300 MW; 400 MW power plant able to meet total power requirement of Ibadan DISCO.
56. Africa Oil & Gas Report (2025, October 28). “Dangote Will add a 750,000BPD Single Train to Expand its Existing Refinery.” Plans to raise capacity from 650,000 bpsd to 700,000 bpsd; utilises existing jetty infrastructure.
57. Guardian (2023, May 17). “Nigeria hopeful of N9.7 trillion yearly from Dangote Refinery.” World's largest single-train 650,000 bpd refinery with 900 KTPA polypropylene plant; 435 MW power plant capable of meeting total power requirement of five states.

16. Financial System Constraints

58. BusinessDay (2026, September 18). “Manufacturers seek N1trn stabilisation fund to save shrinking factories.” BusinessDay NG. ₦1 trillion Manufacturing Stabilisation Fund remains unreleased; short-term lending rates averaging 32%.
59. Punch (2026, September 22). “Manufacturers' loan costs jump 53% as credit falls.” Punch.
60. Vanguard (2026, June 24). “N1.92trn credit crunch threatens Nigeria's industrialisation drive – MAN.” Vanguard. Average prime lending rates: ~27%; maximum lending rates: ~35.6%.
61. BusinessDay (2025, February 25). “Why Nigerian companies are turning away from bank loans.” BusinessDay NG. Benchmark interest rates at 27.5%; commercial bank lending rates averaging 32–36%.

17. Educational System Constraints

- 62. BusinessDay (2026, April 27). “Nigeria is producing graduates faster than it produces jobs. The gap is not a talent deficit. It is a policy failure.” BusinessDay NG. 53% of Nigerians aged 18–35 unemployed or in non-productive employment; 4.2 million young Nigerians enter labour market annually; formal economy generates ~650,000 jobs.
- 63. Plan International Nigeria & ActionAid Nigeria (2025). State of the Nigerian Youth Report 2025. ~80 million young Nigerians unemployed (53% of youth population); ~1.7 million graduates leave tertiary institutions annually.
- 64. Industrial Training Fund (ITF). Established under Decree No. 47 of 1971; mandate to promote acquisition of skills in industry and commerce; network of 32 Area Offices and 5 Industrial Skills Training Centres.
- 65. National Directorate of Employment (NDE). Established to combat unemployment; last publicly audited placement report: 2019.

18. Capital Importation and FDI Decline

- 66. National Bureau of Statistics (NBS) data, cited in BusinessDay (2026, April 7). “Nigeria's manufacturing investment plunges 46% in 2025.” BusinessDay NG. Foreign investment in manufacturing declined 46% from \$1.43 billion (2024) to \$773 million (2025). Sector's share of total capital importation weakened to 3.3% in 2025 from 11.6% in 2024.
- 67. Vanguard (2026, March 30). “Foreign investment in manufacturing plunges 51.44% in two years.” Vanguard. Capital importation into production/manufacturing fell to \$772.45 million in 2025, down from \$1.59 billion in 2023.
- 68. BusinessDay (2026, February 25). “Domestic capital replaces foreign inflows as manufacturing FDI drops to eight-year low.” BusinessDay NG. Manufacturing attracted \$463.52 million in first nine months of 2025 — a 118.1% decline.

19. AfCFTA and Trade Competitiveness

- 69. BusinessDay (2026, January 16). “Nigeria unveils industrialisation policy to boost jobs, value addition.” BusinessDay NG. Policy reflects coordinated approach to industrialisation, trade, and investment; trade competitiveness under AfCFTA framework.
- 70. BusinessDay (2026, July 15). “Nigeria's industrialisation hinges on competitiveness, not policy.” BusinessDay NG. Five-pillar framework: reduce production costs through reliable power, efficient transport, affordable long-term finance; pursue export competitiveness under AfCFTA.
- 71. Guardian (2026, July 23). “‘Without competitive manufacturing, Nigeria risks missing AfCFTA gains’.” Guardian.
- 72. NESG (2025). NES #31 – The Reform Imperative: Building a Prosperous and Inclusive Nigeria by 2030. Operationalise AfCFTA; activate National AfCFTA Coordination Committee; develop cargo corridors to African markets.

20. Ease of Doing Business and Regulatory Reform

- 73. Presidential Enabling Business Environment Council (PEBEC) (2025, December). 2025 Subnational Ease of Doing Business Report. Lagos ranked first (85.6%), followed by Kaduna (65.1%), Oyo (62.7%), FCT (61.0%), Ogun (59.9%).
- 74. NAN (2025, December 8). “PEBEC releases 2025 Subnational Ease of Doing Business Report.”

21. Logistics Performance

- 75. World Bank. Logistics Performance Index (LPI) – Nigeria. Nigeria LPI score: 1,128; customs: 13.6; infrastructure: 11.2; international shipments: 7.7; logistics competence: 17.4; tracking and tracing: 13.1; timeliness: 11.0.

22. Additional Sources

76. Nairametrics (2026, March 8). “NESG warns of growing deindustrialisation as Nigeria's manufacturing sector remains weak.” Nairametrics.
77. Leadership (2025, September 5). “Unemployment Of 80m Youths, Insecurity, Trust Deficit Triggering Vulnerability – Report.” Leadership.
78. The Business Times (2025, October 17). “FG Unveils Six-Point 'Nigeria First' Plan to Boost Local Manufacturing and Industrial Growth.” The Business Times.