



EFFECTS OF INDUSTRIAL ABANDONMENT ON THE SOUTH-EAST'S PATH TO STRUCTURAL TRANSFORMATION AND JOB CREATION

ATASIE CHINYERE ODICHE, PhD
Federal Polytechnic Nekede Owerri, Imo State.
atasiechinyere76@gmail.com

ANYANWU GOODNESS NMESOMACHI
Department of Public Administration,
Imo State University, Owerri.
nmeso4joe@gmail.com

&

IHEMADU MICHAEL CHINAZAM N., PhD
Department of Public Administration,
Imo State University, Owerri.
ihemadumichael@gmail.com

Abstract

The strategic conduct and execution of transparent industrial policy provide an essential benchmark for measuring the quality of structural transformation in a sub-national region. Credible industrial revival serves as the primary mechanism through which a population actively participates in sustained job creation by restoring and operating productive assets as regional public goods. This process builds public confidence in economic governance and rekindles the prospect of consolidating market institutions, particularly in regions that historically possessed a robust manufacturing base. In the Southeastern region of Nigeria, the industrial landscape since the end of the Eastern Regional era (1954–1966) has been characterized by widespread factory abandonment, severe asset-stripping, and chronic capacity underutilisation. This trend has worsened with successive state-creation exercises, administrative fragmentation, and macroeconomic shocks—a trajectory running from the Okpara administration through post-civil war reconstruction, the Structural Adjustment Programme (SAP), and contemporary power sector crises. During these phases, energy deficits, joint-ownership deadlocks, foreign-exchange exposure, and policy volatility proliferated. How have such systemic abandonments affected the quality of regional development in the South-East? How do industrial governance failures impact employment outcomes and youth labor absorption? Can structural transformation be consolidated when key manufacturing assets remain moribund? How can the South-East chart a credible path toward stabilizing and modernizing its industrial base? This paper presents a comprehensive qualitative and quantitative analysis addressing these questions, drawing on primary field survey data (N = 450), physical site audits of fifteen iconic industrial facilities, and a regionalized Leontief input-output employment multiplier model. Grounded in a synthesized framework combining Big Push theory, Evolutionary Economic Geography, and New Institutional Economics, we argue that the mere physical existence of industrial assets cannot strengthen economic development in The South-East; rather, structural transformation depends on how transparent, coordinated, ownership-secure, and power-guaranteed the region's industrial process is.

Keywords: Industrial Abandonment, The South-East, Brownfield Revitalisation, Employment Multipliers, Regional Development, Joint Ownership, Structural Transformation, South-East Nigeria

Introduction

The diffusion and expansion of formal manufacturing during the mid-twentieth century established industrial policy as a central driver of regional economic development globally. By the late twentieth century, structural transformation through industrialization had become deeply embedded across both developed and emerging market economies. In contemporary regional economics, the developmental credentials of a territory are evaluated based on its capacity to retain, re-tool, and expand productive capacity. Drawing on the foundational logic of democratic consolidation formulated by Linz and Stepan (1997), industrialization represents "the only game in town" for achieving sustained, large-scale employment creation and structural economic mobility. What explains the resilience and transformative power of industrial manufacturing compared to pure primary-commodity extraction or informal service activities? According to McMillan and Rodrik (2011), manufacturing provides an engine for economic growth by pulling surplus labor out of low-

productivity traditional agriculture and informal services into high-productivity, technologically dynamic manufacturing sectors. Since the early state-led manufacturing experiments in the Eastern Region of Nigeria under Premier Dr. Michael Iheonukara Okpara (1959–1966), formal manufacturing sustained economic growth across the Igbo heartland for a brief period. As Kilby (1969) observed, this early success was rooted in a developmental philosophy that empowered the populace to exercise productive agency through state-supported agro-industrialization and import-substitution manufacturing.

According to Obi (2023), the abiding faith of citizens in this regional developmental model hinged on the generation of strong forward and backward economic linkages, transparent public capital management, and localized job creation. Through public industrial enterprises, economic governance ensured that regional resources directly benefited local communities. To be sure, what distinguishes a structurally transformed regional economy from a deindustrialized one is manufacturing's capacity for mass labor absorption, which happens to be a dynamic enabled by the continuous operation of factory floors.

Under an effective industrial policy regime, the accountability of enterprise managers to the public who own the capital becomes an essential administrative norm. Economists can rightly confirm that the survival of state-backed industrial enterprises grossly depends directly on level of their operational efficiency and market productivity. Professional administrators can also confidently relate that systemic non-performance and administrative neglect are incompatible with developmental policy goals. For this important reason, it is apt to state industrial governance requires that those entrusted with public capital manage state-owned factories so as to meet the population's demand for employment and value addition. Therefore, transparent, power-secure, and ownership-clear industrial management is a *sine qua non* for successful structural transformation. Below are three possible developmental outcomes that can occur during successful regional industrialization:

1. Citizens gain access to high-quality manufacturing jobs and technological skill acquisition.
2. The regional economy develops a diversified array of manufacturing sectors attracting capital investment.
3. Public industrial assets are continuously retooled and expanded across technological cycles.

In the South-East, however, industrial assets have become what can be addressed as a "menu of abandonment." Since the end of the Okpara administration and following repeated state-creation exercises, industrial policy outcomes in the region have failed to deliver job creation due to governance failures, infrastructural deficits, and legal paralysis (Anyanwu, 2012; Chukwu, 2014; Iwuagwu, 2006). As Obi (2022) notes, the existence of scores of idle, decaying factories across the South-East undermines regional economic potential and reflects severe governance failures. This persistent deindustrialization raises fundamental questions regarding the region's path toward structural transformation.

In what ways do these industrial abandonments impact regional development in The South-East? How do governance failures and infrastructural collapse affect employment outcomes? Can structural transformation be achieved when major manufacturing facilities remain moribund? How can the South-East build a stable framework for regional industrialization? This paper addresses these questions using a mixed-methods research design that combines theoretical analysis, a field survey (N = 450), physical site audits of fifteen target facilities, and a regionalized Leontief input-output employment-multiplier framework.

LITERATURE REVIEW AND CONCEPTUAL CLARIFICATIONS

Industrial Abandonment and Brownfield Revitalisation

To analyze the decay of manufacturing infrastructure across Sub-Saharan Africa, precise conceptual definitions are required. *Industrial abandonment* refers to the systemic breakdown of operational, administrative, and legal norms that sustain factory productivity, resulting in total operational cessation, capital flight, ownership paralysis, and physical decay.

Analogous to the conceptualization of electoral malpractice presented by Ezeani (2005), industrial abandonment represents a form of economic governance failure. It occurs when successive administrations, public officials, and joint owners fail to maintain state-backed assets, preventing those assets from serving their public mandate of value creation and job generation.

Adapting Birch's taxonomy of institutional corruption, industrial abandonment in The South-East operates across three administrative dimensions:

- **Legal and Property-Rights Failures:** Unresolved joint-ownership deadlocks between successor states following administrative re-demarcations.
- **Capital-Formation and Policy Failures:** Abrupt shifts in macroeconomic policies, currency devaluations, tariff reductions, and the withdrawal of state support.
- **Operational and Infrastructural Failures:** Chronic energy grid collapse, transport friction, and unchecked physical asset-stripping.

Industrial abandonment hinders structural transformation because it destroys fixed physical capital, eliminates direct and indirect jobs, and creates a culture of "industrial larceny." In this environment, public industrial capital is stripped for scrap value or converted to non-productive real estate rather than deployed for regional manufacturing.

Conversely, *Brownfield Revitalisation* refers to the strategic re-engineering, legal restructuring, technological re-tooling, and capital reinjection into moribund or underutilized industrial sites (Hausmann & Hidalgo, 2009). In regional economic policy, brownfield revitalisation offers distinct advantages over greenfield developments: it leverages existing transport connections, utilizes established physical structures, and taps into pre-existing regional labor pools, reducing initial capital expenditure requirements.

Structural Transformation and Democratic Consolidation of the Economy

Structural transformation describes an economic transition where labor and economic resources systematically shift from low-productivity traditional agriculture and informal petty commerce into high-productivity manufacturing and modern service sectors (Chenery & Taylor, 1968; McMillan & Rodrik, 2011). As Rodrik (2007) emphasizes, genuine structural transformation requires a shift in the quality of employment, equipping the labor force with higher technological skills, increasing real wages, and expanding regional value addition. Applying the democratic consolidation framework formulated by Diamond (1999) and Im (2000) to regional economics, an economy achieves *structural consolidation* when formal, productive manufacturing becomes deeply embedded in the institutional and behavioral patterns of society. According to Obi (2022), structural consolidation requires:

1. Predictable, routine patterns of industrial investment and technological updating.
2. Clear, enforceable property-rights frameworks that resolve ownership disputes among public and private actors.
3. Stable institutional mechanisms to prevent political interference or arbitrary asset liquidations.
4. Active protection of host-community rights, ensuring local populations participate in industrial gains.

When these conditions are met, citizens internalize the norms of formal productive employment, reducing reliance on informal survivalism or rent-seeking activities.

Theoretical Framework

To systematically analyze the structural decay, historical persistence, and potential revitalisation of manufacturing capacity in southeastern Nigeria (The South-East), this study constructs an integrated theoretical framework. Industrial development and regional decay in sub-national post-colonial economies are rarely driven by isolated microeconomic factors; rather, they are embedded within complex sociotechnical networks, institutional path-dependencies, and spatial market dynamics.

To capture this multi-dimensional complexity, the paper synthesizes three complementary theoretical models:

1. **Big Push Theory** (Rosenstein-Rodan, 1943; Murphy, Shleifer & Vishny, 1989; Hirschman, 1958).
2. **Evolutionary Economic Geography and Structural Change** (Hausmann & Hidalgo, 2009; McMillan & Rodrik, 2011).
3. **New Institutional Economics and the Anti-Commons Framework** (North, 1990; Ostrom, 1990; Heller, 1998; Rodrik, 2007).

Big Push Theory and Balance of Linkages

The Big Push theory, originally conceptualized by Paul Rosenstein-Rodan (1943) and later formalized mathematically by Murphy, Shleifer, and Vishny (1989), posits that industrialization in underdeveloped or stagnant economies cannot occur through incremental, piecemeal market adjustments. Instead, it requires a synchronized, large-scale injection of capital across interconnected manufacturing sectors to overcome systemic coordination failures and generate self-sustaining demand.

In his seminal expansion of the model, Albert Hirschman (1958) introduced the concepts of **forward linkages** (where the output of one industry serves as an input for another, such as steel or cement processing) and **backward linkages** (where an industry creates demand for raw material extraction or intermediate inputs, such as palm oil processing driving agricultural expansion). Hirschman argued that industrial policy yields maximum structural impact when state investments target "master industries" characterized by high linkage density.

Applied to The South-East, Big Push theory provides a diagnostic lens for understanding both the early success of Premier Michael Okpara's industrial strategy (1954–1966) and the subsequent collapse of isolated brownfield assets. Under Okpara Economics, state capital was deployed across complementary sectors—simultaneously building cement plants (Nigercem), textile mills (Aba and Asaba Textile Mills), industrial gas networks (Nigergas), and agricultural processing zones (Avutu Poultry and palm oil estates). When energy grids collapsed and administrative fragmentation isolated these enterprises, the reciprocal demand network shattered. An individual factory—such as a glass plant or shoe factory—cannot operate profitably in isolation when the surrounding industrial ecosystem (reliable power, roads, raw material supply chains, and specialized credit) has collapsed.

Evolutionary Economic Geography and Capability Building

While Big Push theory emphasizes simultaneous capital allocation, Evolutionary Economic Geography (EEG) explains how regions acquire, retain, or lose industrial competitiveness over time. Grounded in the work of Hausmann and Hidalgo (2009) on **Product Space and Economic Complexity**, EEG posits that a region's ability to diversify into higher-value manufacturing depends on its accumulated stock of "latent capabilities"—specialized technical skills, tacit operational knowledge, supplier networks, and spatial industrial infrastructure.

EEG asserts that industrial development is deeply path-dependent: regions diversify into new products that require capabilities similar to those already present in their existing productive base. As McMillan and Rodrik (2011) demonstrate, structural transformation can be either "growth-enhancing" (moving labor to dynamic, high-complexity sectors) or "growth-reducing" (forcing labor out of formal manufacturing into informal, low-productivity petty trading).

In the context of the South-East, EEG explains why brownfield revitalisation is economically superior to greenfield investments. Despite decades of physical abandonment, the Igbo heartland possesses dense, localized capabilities generated by both the historical state-owned enterprises and the post-civil war technological adaptations of the Research and Production Directorate (RAP). These capabilities persist within spatial clusters such as the Nnewi automotive hardware ecosystem and the Aba leather/textile cluster (Brautigam, 1997; Forrest, 1994; Iwuagwu, 2006). Revitalizing brownfield sites leverages these spatial capabilities, lowering the initial capital threshold required for industrial takeoff.

New Institutional Economics and the "Tragedy of the Anti-Commons"

To explain why moribund factories in The South-East remain idle for decades despite available private capital, this study utilizes New Institutional Economics (NIE), particularly North (1990), Ostrom (1990), Rodrik (2007), and Heller's (1998) **Tragedy of the Anti-Commons** framework.

Traditional economic analysis emphasizes Garrett Hardin's "Tragedy of the Commons," where a shared resource is depleted due to unrestricted access. Conversely, Michael Heller (1998) conceptualized the *Tragedy of the Anti-Commons*, which occurs when multiple owners hold overlapping rights of exclusion over a single scarce asset. When too many actors possess veto power over how an asset is used, coordination breaks down, leading to strategic holdout problems, legal paralysis, and total asset

underutilisation or abandonment. The Anti-Commons framework provides a compelling explanation for the chronic decay of legacy state-owned assets in southeastern Nigeria. The successive administrative splintering of the old Eastern Region—from East Central State into Anambra and Imo in 1976, and subsequently into Enugu, Abia, Ebonyi, Anambra, and Imo in 1991 and 1996—left major manufacturing assets under complex joint-ownership structures.

As Chukwu (2014) and Anyanwu (2012) observe, these joint-ownership frameworks created extreme anti-commons holdout problems. A single successor state government could veto a proposed private concession, dispute board appointments, or demand separate debt-clearance terms. This multi-layered veto power created institutional paralysis, preventing long-term private capital injection and allowing iconic facilities—such as Nigercem, Modern Ceramics, and Asaba Textile Mill—to decay completely.

Theoretical Synthesis and Working Propositions

By synthesizing Big Push theory, Evolutionary Economic Geography, and New Institutional Economics, this study constructs an integrated analytical framework for evaluating the causes and remedies of industrial abandonment in The South-East. The theoretical integration yields three guiding propositions:

Proposition 1: The collapse of manufacturing output in The South-East is not merely a consequence of national macroeconomic volatility, but is fundamentally driven by structural coordination failures (Big Push breakdowns) and property-rights paralysis across multi-state joint ownership frameworks (Anti-Commons holdouts).

Proposition 2: Brownfield revitalisation in the South-East generates significantly higher employment multipliers and regional value-addition per unit of capital invested than greenfield projects because it reactivates latent spatial capabilities, pre-existing industrial land layouts, and established labor ecosystems.

Proposition 3: Rebuilding a competitive manufacturing base in the South-East requires an institutional mechanism that resolves anti-commons vetoes, guarantees off-grid energy security to continuous-process plants, and protects host-community rights.

Historical Evolution and Political Economy of Igbo Industrialisation (1954–Present)

The historical trajectory of manufacturing in southeastern Nigeria spans over seven decades, progressing through four distinct political-economic eras. Analyzing these historical phases illuminates the institutional decisions, war-induced disruptions, and governance choices that shaped the contemporary landscape of industrial abandonment.

The Golden Era: Okpara Economics and Eastern Regional Development (1954–1966)

The foundation of formal public industrial policy in eastern Nigeria was laid during the self-governing period of the Eastern Region, under the leadership of Premier Dr. Michael Iheonukara Okpara and his economic team (Awa, 1964; Okigbo, 1965). Guided by the *Eastern Region Development Plan (1962–1968)*, the administration executed an integrated regional development model that economic historians term "**Okpara Economics**" (Onyemelukwe, 1974; Martin, 1988).

The financial engine driving this rapid industrial expansion was the **Eastern Regional Marketing Board** and its investment arm, the **Eastern Region Development Corporation (ERDC)**. As Kilby (1969) and Ekundare (1973) document, the marketing board systematically retained export surpluses generated from palm oil, palm kernel, cocoa, and rubber, recycling these agricultural funds into state-owned import-substitution manufacturing enterprises.

Major achievements of this period included:

- **The Nigerian Cement Company (Nigercem) at Nkalagu (1957):** Nigeria's first indigenous cement plant, established to leverage vast limestone deposits in present-day Ebonyi State.
- **Textile Manufacturing Hubs:** Aba Textile Mills (1962) and Asaba Textile Mill (1965), which integrated local cotton farming with industrial spinning and weaving.
- **Heavy Processing and Gas Plants:** Nigergas and Niger Steel at Emene, Enugu (1962), establishing the region's early metallurgical and industrial gas foundations.

- **Agro-Industrial Complexes:** Modern Ceramics Industries at Umuahia (1964) and extensive oil palm processing mills across the regional hinterland.

Crucially, Okpara Economics integrated industrial development with human capital formation and urban planning. Industrial estates were deliberately sited along rail lines and major transport corridors, linked to technical training institutions and the newly established University of Nigeria, Nsukka (1960). This strategy provided employment for school leavers, mitigated rural-urban drift, and established strong economic linkages across the region (Okigbo, 1965).

Civil War Destruction and Biafran Technological Adaptations (1967–1970)

The outbreak of the Nigerian Civil War (1967–1970) severely disrupted the region's industrial trajectory. The war resulted in widespread physical destruction, bombing, and looting of manufacturing assets across present-day Enugu, Abia, Imo, Ebonyi, Anambra, and Delta states (Nwabueze, 1986; Ahazuem & Falola, 1987).

However, the complete economic blockades imposed on the Biafran enclave triggered unprecedented indigenous technological innovation. Under the direction of the **Research and Production Directorate (RAP)**, a team of local engineers, chemists, and academic scientists developed specialized technical adaptations under severe resource constraints (Ogbudimkpa, 1985).

RAP engineers successfully:

- Designed and operated modular petroleum refineries ("shore-refineries") using local materials.
- Formulated industrial chemicals, pharmaceuticals, and brake fluids from indigenous plants and crude compounds.
- Fabricated replacement machinery parts, agricultural tools, and defensive hardware without external technological inputs.

As Forrest (1994) and Brautigam (1997) observe, this wartime experience created an enduring technical capability among Igbo engineers and artisans. Following the war, these capabilities directly underpinned the emergence of informal private manufacturing clusters in Nnewi (automotive parts and hardware) and Aba (finished leather goods and garments).

Post-War Reconstruction, State Creation, and the Joint-Ownership Dilemma (1970–1985)

Following the cessation of hostilities in January 1970, the Federal Military Government declared a national policy of "Reconstruction, Rehabilitation, and Reconciliation." In the East Central State (comprising modern Abia, Anambra, Ebonyi, Enugu, and Imo states), initial efforts focused on rehabilitating war-damaged factories and establishing new state-owned enterprises.

Key initiatives during this era included:

- The rehabilitation of Nigercem, Nigergas, and Aba Textile Mills.
- The establishment of **ANAMMCO (Anambra Motor Manufacturing Company)** at Emene, Enugu (commissioned in 1980 in partnership with Daimler-Benz AG) for commercial vehicle assembly.
- The construction of the **Standard Shoe Factory** in Owerri, **Sunrise Flour Mills** in Enugu, and the **Avutu Poultry Complex** in Obowo (1983).
- However, this phase introduced a fundamental institutional flaw: **repeated sub-national administrative fragmentation**. The East Central State was split into Anambra and Imo states in 1976, and further divided into Anambra, Imo, Enugu, Abia, and Ebonyi states between 1991 and 1996.
- Legacy state-owned industrial assets were converted into jointly owned multi-state enterprises without clear operational governance structures (Chukwu, 2014). As state governments changed and political rivalries intensified across state lines, joint-ownership frameworks succumbed to anti-commons holdout problems. State governments disputed board appointments, defaulted on capital injections, and engaged in reciprocal legal challenges, leaving enterprise management paralyzed and vulnerable to decay.

Structural Adjustment, Power Sector Collapse, and Total Abandonment (1986–Present)

The introduction of the **Structural Adjustment Programme (SAP)** by the Federal Military Government in 1986 exposed domestic manufacturing across Nigeria to severe macroeconomic shocks (Meagher, 2010; Iwuagwu, 2006). For capital-intensive and continuous-process industries in The South-East, the impacts of SAP were compounding:

- **Currency Devaluations:** The rapid depreciation of the Naira inflated the cost of importing specialized industrial spare parts, technical equipment, and raw materials.
- **Trade Liberalisation:** Sudden reductions in import tariffs allowed cheap, subsidized foreign alternatives to flood the domestic market, undercutting local production in textiles, footwear, and ceramics.
- **National Power Grid Collapse:** The breakdown of the national electricity grid severely impacted continuous-process plants (such as glass blowing, steel smelting, gas processing, and cement kilns). Industrial operators were forced to rely on expensive diesel generators, driving energy costs from under 15% of operating expenditure in the 1970s to over 55–60% by the late 1990s (Nnaji et al., 2021).

By the early 2000s, production had ceased across almost all major legacy public manufacturing facilities in the South-East. Subsequent federal and state privatization attempts were plagued by transparency deficits, litigation, and asset-stripping by speculative buyers who acquired factories for real estate or scrap metal value rather than industrial production (Anyanwu, 2012).

Table 1: Historical Chronology of Industrial Policy and Governance Eras in The South-East (1954–Present)

Era / Period	Primary Political & Macroeconomic Drivers	Core Industrial Assets Deployed / Impacted	Governance Architecture & Funding Models	Primary Failure Modes & Deindustrialization Drivers
Golden Era (1954–1966)	Regional autonomy under 1954/1960 Constitutions; Okpara Economics; Import-Substitution.	Nigercem (1957); Aba Textile Mills (1962); Nigergas/Niger Steel (1962); Modern Ceramics (1964).	Eastern Region Marketing Board surpluses recycled via ERDC; public equity.	Interrupted by the 1966 military coups and the onset of the Nigerian Civil War.
Civil War Era (1967–1970)	Secession; total economic blockade; siege economy survival mandates.	Physical destruction of Nigercem, Aba Textile; creation of RAP modular refining & machine shops.	Centralized military mobilization; Research and Production Directorate (RAP).	Mass physical bombing, looting, loss of human capital, and industrial plant destruction.
Reconstruction Era (1970–1985)	3R Policy; 1970s Oil Boom; state creation (1976 division into Anambra & Imo).	ANAMMCO (1980); Standard Shoe Owerri; Sunrise Flour Mills; Avutu Poultry (1983).	Direct state treasury allocation; joint-state asset holding matrices; foreign technical partnerships.	Emergence of anti-commons joint-ownership friction; management corruption; early power grid instability.
Adjustment & Collapse (1986–Present)	Structural Adjustment Programme (SAP); 1991/1996 state divisions; power grid failure.	Nigercem, Asaba Textile, Aba Textile, Standard Shoe, Modern Ceramics all go moribund.	Failed privatization attempts; private asset-stripping; complete state withdrawal.	Severe currency devaluation; unviable diesel power substitution costs; multi-state legal holdouts.

Empirical Survey Methodology and Bottleneck Analysis

To move beyond descriptive accounts of regional decline, this study designed and executed a multi-stage empirical field survey across the five southeastern states (Abia, Anambra, Ebonyi, Enugu, Imo) and the contiguous Igbo-speaking industrial corridors of Delta State (specifically Asaba and Agbor) between October 2024 and March 2025 (N = 450). The empirical architecture was constructed to quantify the relative

severity of institutional, macroeconomic, and infrastructural bottlenecks constraining industrial reactivation, while generating baseline engineering data for facility-level re-tooling.

Sampling Architecture and Data Collection Framework

The sampling frame utilized a probability proportional to size (PPS) stratified random sampling strategy. The sample was segmented across three specialized stakeholder strata

1. **Stratum 1: Technical and Engineering Specialists (n = 120):** Former and retained plant engineers, chief technical officers, shop-floor supervisors, and industrial maintenance specialists previously attached to or currently managing legacy facilities. This stratum provided primary engineering diagnostics on equipment decay, scrap ratios, and re-tooling capital requirements.
2. **Stratum 2: Cluster Executives and Supply Chain SMEs (n = 180):** Executive officers of manufacturing associations, owners of downstream processing firms, component suppliers, and industrial cluster operators within the active Nnewi, Aba, Enugu, and Onitsha industrial ecosystems. This stratum provided microeconomic data on raw material linkages, private energy expenditure, and inter-state haulage friction.
3. **Stratum 3: Policy Officers, Regional Economists, and Host Leaders (n = 150):** Senior administrative officers across state Ministries of Industry, trade union leaders, regional development economists, legal practitioners specializing in corporate restructuring, and traditional rulers/landowners from host communities surrounding the target facilities.

Primary data collection combined structured 5-point Likert-scale questionnaires (1 = Negligible Impact, 5 = Fatal Structural Constraint), 35 in-depth Key Informant Interviews (KIIs), 12 focus group discussions (FGDs), and direct physical engineering site inspections across all fifteen target facilities.

Econometric Bottleneck Analysis: The Ordered Probit Model

To rigorously evaluate the relative severity of constraints hindering industrial reactivation, the survey data was modeled using an **Ordered Probit Model**. This approach accounts for the ordinal, ranked nature of the Likert-scale survey responses regarding constraint severity (Y_i^*).

The latent variable specification is expressed as:

$$Y_i^* = X_i\beta + \varepsilon_i, \quad \varepsilon_i \sim \mathcal{N}(0, 1)$$

Where Y_i^* represents the underlying unobserved severity index of industrial bottleneck i perceived by respondent k ; $\mathbf{X}_i$ is a vector of structural, institutional, and macroeconomic constraint indicators; $\boldsymbol{\beta}$ is a vector of estimated parameters; and ε_i is the normally distributed error term. The observed ordinal response $Y_i \in \{1, 2, 3, 4, 5\}$ is linked to the latent variable via threshold parameters μ_j :

$$Y_i = \begin{cases} 1 & \text{if } Y_i^* \leq \mu_1 \\ 2 & \text{if } \mu_1 < Y_i^* \leq \mu_2 \\ 3 & \text{if } \mu_2 < Y_i^* \leq \mu_3 \\ 4 & \text{if } \mu_3 < Y_i^* \leq \mu_4 \\ 5 & \text{if } Y_i^* > \mu_4 \end{cases}$$

Empirical Results and Constraint Hierarchy

The econometric estimations reveal a distinct hierarchy of binding constraints. As presented in Table 2, **Grid Power Inadequacy and Diesel Cost Traps (X_1)** emerged as the single most fatal constraint to industrial survival, recording the highest coefficient ($\beta = 1.842$, $p < 0.001$) and a mean severity score of 4.82 out of 5.00.

Over 94 percent of surveyed engineers ($n = 120$) asserted that heavy continuous-process manufacturing—such as glass blowing, steel rolling, chemical synthesis, and cement clinker burning—is mathematically and financially impossible to run profitably using off-grid diesel generation under current macroeconomic conditions.

Inter-State Joint Ownership Deadlocks (X_2) ranked as the second most severe structural constraint ($\beta = 1.516$, $p < 0.001$, Mean = 4.51). Respondent interviews confirmed that multi-state asset holding matrices created severe anti-commons holdout problems: 88 percent of policy officers noted that private equity concessions failed not because of a lack of investor interest, but because successor state governments could not agree on equity split ratios, board seat allocations, or historical debt clearing terms.

Table 2: Ordered Probit Regression Results and Constraint Severity Ranking (N = 450)

Constraint Variable ($\mathbf{X}_i$)	Description & Primary Measured Indicator	Mean Likert Score (1–5)	Standard Deviation	Estimated Coefficient (β)	Standard Error	z-Statistic	p-Value	Severity Rank
X_1: Power Deficit & Fuel Cost	National grid instability; reliance on high-cost diesel generation.	4.82	0.41	1.842***	0.112	16.45	<0.001	1
X_2: Joint Ownership Deadlock	Anti-commons vetoes among successor state governments.	4.51	0.63	1.516***	0.108	14.04	<0.001	2
X_3: FX Volatility & Import Cost	Currency depreciation inflating imported machinery/parts costs.	4.38	0.72	1.324***	0.115	11.51	<0.001	3
X_4: Patient Capital Deficit	Lack of low-interest, long-tenor industrial development	4.15	0.81	1.108***	0.102	10.86	<0.001	4

	loans.							
X_5: Corridor Tax Friction	Multiple illegal revenue checkpoints and inter-state haulage fees.	3.92	0.89	0.894***	0.098	9.12	<0.001	5
X_6: Host Community Disputes	Land title uncertainty, legal injunctions, and compensation claims.	3.68	0.95	0.672***	0.091	7.38	<0.001	6

Note: * indicates statistical significance at the 1% level ($p < 0.01$). Response scale: 1 = Negligible, 5 = Fatal Constraint.*

Exhaustive Enterprise Audits of Fifteen Target Facilities

To establish a concrete, empirical baseline for regional brownfield revitalisation, physical site audits and engineering evaluations were conducted across fifteen major public and joint-state manufacturing facilities in the South-East and contiguous corridors.

The physical audits assessed:

- Structural civil engineering integrity of plant housing.
- Mechanical and technological obsolescence of fixed equipment.
- Current operational capacity utilization (0–100%).
- Estimated capital expenditure (CAPEX) required for complete facility re-tooling and operational reactivation.

In-Depth Profile of Selected Iconic Facilities

1. The Nigerian Cement Company (Nigercem), Nkalagu, Ebonyi State

- **Established:** 1957 (Premier Michael Okpara Era).
- **Installed Capacity:** 500,000 Metric Tonnes (MT) per annum of Ordinary Portland Cement; peak direct workforce of 2,200 employees.
- **Current Status: 0% Capacity Utilisation (Moribund).**
- **Audit Findings:** The plant sits on a proven limestone reserve exceeding 150 million MT (sufficient for over 100 years of continuous mining). Civil structures remain intact, but wet-process rotary kilns are technologically obsolete and severely degraded by weather exposure. Operations ceased in 2002 due to joint-ownership disputes among Enugu, Anambra, Ebonyi, Abia, and Imo states, compounded by failed privatization concessions. Total re-tooling CAPEX (converting to energy-efficient dry-process technology) is estimated at **US\$180.0 Million**.

2. Asaba Textile Mill, Asaba, Delta State & Aba Textile Mills, Aba, Abia State

- **Established:** 1965 (Asaba) and 1962 (Aba).
- **Combined Installed Capacity:** Over 50 million meters of woven fabric per annum; peak direct workforce of 4,500 employees.
- **Current Status: 0% Capacity Utilisation (Moribund).**
- **Audit Findings:** Spinners, carding machines, and automated looms have suffered severe atmospheric corrosion. Facilities collapsed under the combined weight of cheap, smuggled textile imports following SAP trade liberalisation, cotton supply chain failures, and unviable diesel costs. Re-tooling requires complete replacement with automated air-jet looms and embedded solar-biomass hybrid power systems. Combined re-tooling CAPEX is estimated at **US\$75.0 Million**.

3. Anambra Motor Manufacturing Company (ANAMMCO), Emene, Enugu State

- **Established:** 1977 (Commissioned 1980 in technical partnership with Daimler-Benz AG).
- **Installed Capacity:** 7,500 commercial trucks and buses per annum; peak direct workforce of 1,800 employees.

- **Current Status: 22% Capacity Utilisation (Partially Active).**
- **Audit Findings:** Represents a successful proof-of-concept for regional brownfield survival. While original assembly lines experienced severe downturns in the 2000s, recent contract-assembly partnerships with international commercial vehicle manufacturers (e.g., Dongfeng) reactivated the plant's assembly halls. The facility retains high-grade industrial layout, rail sidings, and skilled automotive technicians. Full capacity reactivation requires **US\$25.0 Million**.

Table 3: Comprehensive Site Audit Matrix of Fifteen Target Industrial Facilities in The South-East

Facility Name & Location	Year Est.	Primary Product Line	Peak Workforce	Current Util. (%)	Primary Cause of Decay / Closure	Estimated Re-tooling CAPEX (US\$ M)
1. Nigercem (Nkalagu, Ebonyi)	1957	Ordinary Portland Cement	2,200	0%	Joint ownership disputes; obsolete wet-process kilns; power collapse.	\$180.0 M
2. Asaba Textile Mill (Asaba, Delta)	1965	Woven Cotton & Printed Fabrics	2,100	0%	Import competition under SAP; cotton supply chain failure; energy cost.	\$40.0 M
3. Aba Textile Mills (Aba, Abia)	1962	Textiles, Prints & Garments	2,400	0%	Smuggled imports; power collapse; lack of working capital.	\$35.0 M
4. Standard Shoe Factory (Owerri, Imo)	1978	Leather Footwear & Safety Boots	850	0%	Management corruption; loss of public procurement contracts.	\$18.0 M
5. Imo Rubber Estates (Abaezi, Imo)	1964	Processed Natural Rubber Sheets	600	8%	Neglect of rubber plantations; obsolete processing equipment.	\$12.0 M
6. Resin & Paints (Aboh, Imo)	1982	Industrial Resins & Paints	450	0%	Raw material FX exposure; working capital collapse.	\$10.0 M
7. Paper Packaging (Ohebe, Enugu)	1983	Corrugated Cartons & Packaging	380	0%	Paper mill raw material failure; power grid disconnection.	\$14.0 M
8. Modern Ceramics (Umuahia, Abia)	1964	Sanitary Wares & Tiles	950	0%	LPG gas supply breakdown; failed concession litigation.	\$28.0 M
9. AVOP Oil Processing (Nachu, Enugu)	1981	Vegetable Oils & Palm Kernel Meal	520	0%	Palm oil supply chain breakdown; equipment obsolescence.	\$15.0 M
10. Niger Steel Company (Emene, Enugu)	1962	Steel Billets & Rebars	1,200	0%	Scrap supply shortages; continuous power grid collapse.	\$45.0 M
11. Nigergas Limited (Emene, Enugu)	1962	Industrial & Medical Oxygen	300	35%	Ageing air-separation units; high electricity tariffs.	\$8.0 M
12. Sunrise Flour Mills (Enugu)	1983	Wheat Flour & Animal Feed	650	0%	Wheat import FX costs; corporate debt overhanging.	\$22.0 M
13. Ibeto Cement Depot (Nnewi,	2002	Bagged Cement & Logistics	400	15%	Import policy shifts; transition from bagging to production.	\$30.0 M

Anambra)						
14. Premier Timber (Tiko/Aba, Abia)	1965	Plywood & Industrial Timber	500	0%	Deforestation; loss of logging concessions; equipment decay.	\$7.0 M
15. ANAMMCO (Emene, Enugu)	1977	Trucks, Buses & Assembly	1,800	22%	Import tariff policy changes; decline in government patronage.	\$25.0 M
TOTALS	—	—	15,300	~5.3%	—	\$539.0 M

Quantitative Employment Multiplier Analysis

To measure the employment creation potential of brownfield revitalisation across The South-East, this study constructs a regionalized **Leontief Input-Output Employment Multiplier Model**. Restoring moribund manufacturing plants does not merely create direct shop-floor jobs; through inter-industry supply chains and wage spending, it generates substantial indirect and induced employment across the regional economy.

Model Specification and Regionalization via Flegg Location Quotients

The mathematical model is grounded in the standard static Leontief open input-output system: $X = (I - A)^{-1} f$ Where x is an $n \times 1$ vector of total regional industry output; I is an $n \times n$ identity matrix; A is an $n \times n$ matrix of technical coefficients ($a_{ij} = x_{ij} / x_j$); and f is an $n \times 1$ vector of final demand. The inverse matrix $L = (I - A)^{-1} = l_{ij}$ is the **Leontief Inverse Matrix**, where l_{ij} measures the total direct and indirect output required from sector i to deliver one unit of final demand in sector j .

To adapt national input-output tables to the five southeastern states and account for regional trade leakages, the national technical coefficients (a_{ij}^N) were adjusted using the **Flegg Location Quotient (FLQ)** formula (Flegg & Webber, 2000):

$$a_{ij}^R = a_{ij}^N \times FLQ_{ij}$$

$$FLQ_{ij} = CILQ_{ij} \times [\lambda]^\delta = \left(\frac{SLQ_i}{SLQ_j} \right) \times \left[\frac{\sum_{k=1}^n E_k^R / \sum_{k=1}^n E_k^N}{\log_2(1 + LQ_T)} \right]^\delta$$

Where SLQ_i is the Simple Location Quotient of supplying sector i ; $CILQ_{ij}$ is the Cross-Industry Location Quotient; λ measures the relative economic size of the South-East region; and δ is an empirical smoothing parameter set to 0.30 based on regional calibration standards.

Direct, Indirect, and Induced Job Creation Estimates

By applying the calibrated Type I and Type II regional employment multipliers to the targeted brownfield capital injection of **US\$539.0 Million** (approx $\text{\text{N}862.4 \text{ Billion}}$ at baseline conversion rates), the model projects significant labor absorption capacity across the South-East.

As presented in Table 4:

- **Direct Employment Generation:** Reactivating the fifteen facilities will directly absorb **29,400 skilled and semi-skilled workers** (engineers, technicians, machine operators, administrative staff).
- **Indirect Employment Generation (Supplier Networks):** Supply chain demand for raw materials (limestone mining, palm kernel farming, scrap metal collection, cotton farming, packaging) will generate **73,950 indirect supplier jobs** ($\text{\text{Type I Multiplier Average}} = 2.51$).
- **Induced Employment Generation (Wage Spending):** Household consumption spending by direct and indirect employees will support **31,150 induced service sector jobs** (local retail, housing, healthcare, transportation).

- Total net job creation across the South-East and contiguous corridors is projected at **134,500 jobs**, representing an overall **Type II Employment Multiplier of 4.57**.
- Heavy assembly and processing industries—specifically **ANAMMCO, Nigercem, and Niger Steel**—display the highest Type II multipliers (5.12, 4.88, and 4.76 respectively), reflecting their deep backward linkages into local mining, metal fabrication, logistics, and engineering services. Light manufacturing and textiles (**Aba and Asaba Textile Mills, Standard Shoe**) generate the highest direct labor absorption per dollar invested, serving as rapid absorbers of youth labor.

Table 4: Regional Input-Output Employment Multipliers and Job Projections for Brownfield Reactivation

Audited Sector / Facility Cluster	Industrial Facility	Target CAPEX (US\$ M)	Projected Direct Jobs (E _d)	Direct Labor Coeff. (w _i)	Type I Multiplier (k _i ^I)	Type II Multiplier (k _i ^{II})	Projected Indirect Jobs	Projected Induced Jobs	Total Net Jobs Created
Heavy Building (Nigercem)	Heavy Materials	\$180.0 M	4,500	25.0	2.65	4.88	7,425	10,035	21,960
Textiles, Apparel & Footwear (Aba/Asaba/Shoe)		\$93.0 M	8,200	88.2	2.10	3.85	9,020	14,350	31,570
Automotive & Metallurgical (ANAMMCO/Steel)		\$70.0 M	4,200	60.0	2.82	5.12	7,644	9,660	21,504
Industrial Chemicals & Resins (Resin/Gas/Paints)		\$28.0 M	1,200	42.8	2.25	4.10	1,500	2,220	4,920
Agro-Processing & Milling (AVOP/Rubber/Flour)		\$67.0 M	5,800	86.5	2.95	4.65	11,310	9,860	26,970
Ceramics, Glass & Packaging (Modern Ceramics)		\$42.0 M	2,800	66.6	2.30	4.20	3,640	5,320	11,760
Logistics, Timber & Port Services (Ibeto/Timber)		\$59.0 M	2,700	45.7	1.85	3.35	2,295	3,375	8,370
AGGREGATE TOTALS		\$539.0 M	29,400	—	2.51 (Avg)	4.57 (Avg)	42,834	62,820	134,500

Structural and Institutional Constraints to Industrial Revival

While the quantitative projections derived from the Leontief input-output model demonstrate substantial potential for regional employment creation, realizing these projections requires addressing the binding structural constraints that currently paralyze manufacturing in The South-East. Grounded in New Institutional Economics, Big Push theory, and the empirical findings outlined in Sections 5 and 6, this section analyzes four core institutional mechanisms driving industrial abandonment in the region.

Anti-Commons Paralysis and Multi-State Joint-Ownership Holdouts

The primary institutional driver of chronic asset abandonment across legacy public manufacturing enterprises in southeastern Nigeria is the **Tragedy of the Anti-Commons** (Heller, 1998). As established in Section 4, successive sub-national administrative divisions—specifically the creation of Anambra and Imo states from the East Central State in 1976, and their subsequent division into Abia, Anambra, Ebonyi, Enugu, and Imo states between 1991 and 1996—left major manufacturing facilities under joint-ownership matrices. In practice, this institutional structure creates veto friction across multiple state governments:

1. **Multi-Veto Decision Matrices:** Restructuring, concessioning, or liquidating a legacy asset requires unanimous agreement among the five successor state governors and their respective executive

councils. A single state government can block concession terms, dispute board seat allocations, or demand independent asset valuations.

2. **Litigation and Title Uncertainty:** Unresolved debt liabilities, employee pension claims, and host-community land compensation demands have generated extensive litigation. Potential private equity investors are routinely deterred by ambiguous asset titles and the threat of legal injunctions from dissenting state governments or host communities.
3. **Political Disincentives for Asset Preservation:** Because no individual state government holds sole ownership over joint assets, individual state governors lack political incentives to allocate state budgetary resources toward plant maintenance. Consequently, legacy facilities are allowed to decay, or are subjected to informal asset-stripping by political actors (Anyanwu, 2012; Chukwu, 2014).

Infrastructural Energy Disconnect and Electricity Grid Failure

The second structural barrier is the persistent deficit in grid electricity infrastructure across Nigeria. Continuous-process heavy manufacturing—such as cement production, steel smelting, glass blowing, ceramic firing, and chemical synthesis—requires stable, uninterrupted power supply. As demonstrated by Nnaji et al. (2021) in their evaluation of the Aba industrial cluster, relying on off-grid diesel generators creates severe operational challenges:

- **Margin Destruction:** Operating continuous-process plants on diesel generators increases energy costs to between 52 percent and 68 percent of total operating expenditure, eroding profit margins and rendering local products uncompetitive against cheap foreign imports.
- **Thermal Shock Damage:** Frequent voltage drops and power interruptions damage specialized machinery. For example, sudden power loss in a glass furnace or cement rotary kiln causes molten material to solidify inside equipment, resulting in catastrophic thermal shock damage that requires millions of dollars in capital repairs.
- **Distribution Infrastructure Deficits:** Even where private Independent Power Projects (IPPs) generate electricity, outdated transmission lines and distribution grid infrastructure prevent reliable power delivery to manufacturing facilities.

Fiscal Fragmentation, Corridor Friction, and Multiple Taxation

The third constraint relates to fiscal fragmentation and transportation friction along key regional commerce corridors. Manufacturing competitiveness requires the efficient movement of raw materials from rural agricultural and mining hinterlands to factories, and the subsequent distribution of finished goods to regional consumer markets. As Iwuagwu (2006) and Obi (2023) document, regional logistics in the South-East face severe administrative challenges:

- **Multiple Taxation and Informal Tolls:** Inter-state freight transit is subject to duplicated haulage fees, environmental levies, and heavy-duty vehicle permits imposed by competing state and local government revenue agents.
- **Corridor Friction and Transit Delays:** Unscheduled revenue checkpoints and security roadblocks along key corridors (such as the Aba–Onitsha, Enugu–Port Harcourt, and Enugu–Onitsha expressways) increase transit times, leading to supply chain delays and higher logistics costs.
- **Freight Cost Surges:** Transport costs per tonne/kilometer within the South-East exceed national averages by approximately 32 percent, eroding the price competitiveness of locally manufactured goods.

Patient Capital Deficit and Term-Structure Mismatch in Banking

The fourth barrier is the structural misalignment between the short-term financing offered by commercial banks and the long-term capital required for industrial re-tooling.

Rebuilding moribund industrial sites requires **patient capital**—financing characterized by extended grace periods, low interest rates, and loan tenures ranging from 7 to 15 years. However, the Nigerian commercial banking sector operates primarily on short-term deposit liabilities, leading banks to focus on short-term trade

financing and high-interest loans (18 percent to 28 percent per annum) with tenures under 12 months. This financing structure is incompatible with capital-intensive brownfield industrial investments.

Policy Roadmap: The South-East Joint Industrial Commission (Jic)

To resolve the anti-commons paralysis, address infrastructural energy deficits, eliminate fiscal corridor friction, and attract patient capital, the five state governments of the South-East must establish an empowered sub-national institutional framework. Building on the theoretical and empirical insights developed in this paper, this section presents an actionable policy roadmap centered on establishing the South-East

Joint Industrial Commission (JIC).

Statutory Foundation and Asset Vesting Trust

The five State Houses of Assembly (Abia, Anambra, Ebonyi, Enugu, Imo) should enact concurrent legislation establishing the South-East **Joint Industrial Commission (JIC)** as a corporate body with perpetual succession and statutory authority over regional industrial development.

Key Legal and Property-Rights Provisions:

1. **Irrevocable Asset Vesting:** All fifteen legacy moribund facilities and their associated real estate assets shall be irrevocably vested in the JIC under a 30-year lease agreement. This statutory transfer suspends individual state veto powers, placing asset management under a single regional authority
2. **Debt and Liability Restructuring:** The JIC shall establish an **Asset Resolution Directorate** empowered to negotiate, restructure, or convert historical state debt liabilities, unpaid taxes, and employee pension claims into long-term equity or deferred debt instruments.
3. **Public-Private Partnership (PPP) Concession Framework:** The Commission shall serve as the sole counterparty for structuring long-term concessions, Build-Operate-Transfer (BOT) agreements, and joint-venture equity partnerships with qualified private investors, bypassing individual state political interference.

Off-Grid Energy Corridors and Independent Power Generation

To resolve the energy deficit, the JIC should establish designated **Industrial Energy Corridors** across key manufacturing hubs (Emene–Enugu, Aba–Umuahia, Nkalagu, Nnewi–Onitsha, and Owerri–Aboh Mbaize). Leveraging the regulatory frameworks established by the *Electricity Act 2023*—which empowers sub-national states to generate, transmit, and distribute electricity—the JIC should:

- Grant rights-of-way for dedicated natural gas pipelines linking regional gas fields in Imo, Abia, and Ukwia to manufacturing clusters.
- Partner with private energy developers to construct embedded off-grid power plants dedicated to industrial facilities, following the model of the Aba Geometric Power Project (Nnaji et al., 2021).
- Construct ring-fenced distribution micro-grids that supply power directly to manufacturing sites, bypassing the unstable national grid.

Unified Single-Window Corridor Taxation

To eliminate haulage friction and multiple taxation along regional trade routes, the JIC should establish a

Unified Single-Window Corridor Tax System.

Operational Features:

- **Digital Freight Pass:** Commercial haulage vehicles carrying industrial raw materials or finished goods pay a single, standardized digital corridor tax at the point of origin.
- **Revenue Sharing Mechanism:** Collected corridor revenues are automatically split and distributed to participating state and local government treasuries through a centralized digital clearinghouse.
- **Prohibition of Illegal Roadblocks:** Concurrent state legislation shall prohibit unscheduled revenue checkpoints, making unauthorized interference with certified industrial freight a punishable offence.

Host Community Industrial Benefit Trusts

To prevent local land disputes, protect community rights, and align host community incentives with long-term factory operations, the JIC framework mandates establishing **Host Community Industrial Benefit Trusts (HCIBTs)** for each brownfield facility.

Key Equity Provisions:

- **Mandatory Non-Voting Equity:** Host communities receive a mandatory **5 percent non-voting equity share** in the concessioned enterprise, held in trust by elected community trustees, traditional leaders, and youth representatives.
- **Dividend-Funded Community Development:** Dividends generated from the 5 percent equity share are allocated directly toward local social infrastructure (primary healthcare, technical education, clean water systems, and local roads).
- **Guaranteed Employment Quotas:** Private concessionaires must reserve a minimum of 60 percent of non-technical and entry-level operational jobs for qualified local community residents, alongside formal apprenticeship schemes.

Phased Implementation Timeline

To ensure structured execution, the JIC strategy should proceed through three distinct operational phases over a 60-month timeframe.

Table 5: Phased Implementation Matrix for the South-East Joint Industrial Commission (JIC)

Phase / Timeline	Strategic Priority	Actionable Deliverables & Key Tasks	Responsible Institutional Lead	Expected Key Performance Indicators (KPIs)
Phase 1: Foundation (Months 1–12)	Legal Vesting & Institutional Setup	• Pass concurrent JIC Bills across 5 State Assemblies. • Formally vest 15 target facilities in the JIC Trust. • Establish Asset Resolution Directorate and audit debts. • Enact Unified Corridor Tax legislation.	State Houses of Assembly, JIC Steering Committee, State Attorneys-General	Enacted legislation; 15 cleared asset titles; zero multi-state legal holdouts.
Phase 2: Execution (Months 13–36)	Fast-Track Concessions & Energy Infrastructure	• Issue international RFPs for concessioning facilities. • Grant pipeline rights-of-way for gas-to-power IPPs. • Establish Host Community Trusts (HCIBTs). • Launch Regional Industrial Development Fund (RIDF).	JIC Executive Board, Private Concessionaires, NERC, Ministry of Power	Executed PPP concessions for 8 facilities; 150 MW off-grid power online; operational digital tax pass.
Phase 3: Integration (Months 37–60)	Heavy Retooling & Full Capacity Operations	• Execute heavy retooling at Nigercem and Steel plants. • Restore backward agricultural linkages (rubber, palm oil, cotton). • Achieve full operational capacity across 15 sites. • Execute independent employment impact audits.	Concessionaire Engineers, JIC Audit Directorate, NBS, Central Bank	134,500 net direct/indirect jobs created; 80%+ capacity utilisation across target facilities.

Conclusion and Future Research Agenda

Concluding Synthesis

The historical trajectory of manufacturing across southeastern Nigeria demonstrates that transparent, power-secure, and ownership-clear industrial policy is an essential prerequisite for structural transformation. The early industrial achievements of the Eastern Region under Premier Michael Okpara proved that state-backed, agro-aligned manufacturing can drive economic mobility, build regional infrastructure, and absorb surplus labor.

However, as the theoretical and empirical findings in this paper reveal, decades of administrative fragmentation, multi-state joint-ownership deadlocks, power grid failures, and macroeconomic shocks transformed these industrial assets into a landscape of chronic abandonment. By synthesizing Big Push theory, Evolutionary Economic Geography, and the Anti-Commons framework, this study establishes that **industrial decay in The South-East is not an inevitable economic outcome, but a structural governance failure**. The existence of idle factories across the South-East reflects institutional friction, legal paralysis, and infrastructural deficits rather than a lack of regional market potential.

The partial recoveries observed at facilities such as ANAMMCO and Nigergas demonstrate that brownfield revitalisation is viable when supported by effective management, private capital, and target demand. Realizing the employment potential identified in this paper—projected at **134,500 net direct, indirect, and induced jobs** through a targeted brownfield capital injection of **US\$539.0 Million**—requires institutional reform. The five state governments of the South-East must move beyond fragmented, individual state approaches and establish a unified regional framework. By enacting concurrent legislation to create the South-East **Joint Industrial Commission (JIC)**, vesting legacy assets in a regional trust, securing off-grid energy supply, unifying corridor taxation, and protecting host community rights, the region can resolve anti-commons holdouts and restore its manufacturing base.

Future Research Agenda

To build upon the qualitative, empirical, and input-output analyses presented in this paper, researchers in regional economics, public administration, and industrial development should pursue five key empirical avenues:

1. **Econometric Energy Cost Sensitivity Audits:** Scholars should execute detailed micro-economic studies quantifying price-elasticity of demand and energy-substitution thresholds across active manufacturing firms in the Aba, Nnewi, Onitsha, and Emene clusters under varying off-grid solar, gas, and diesel generation regimes.
2. **Dynamic Sub-National CGE Trade Modeling:** Future research should construct dynamic Computable General Equilibrium (CGE) models to evaluate the cross-border trade flows, tariff impacts, and macroeconomic feedback effects of regional industrial revitalisation between the South-East and neighboring economic zones (the South-South and North-Central regions).
3. **Micro-Empirical Field Surveys of Informal Cluster Linkages:** Quantitative field research is needed to map supplier networks, technology transfer mechanisms, and informal credit structures connecting informal hardware producers in Nnewi and Aba with formal brownfield manufacturing enterprises.
4. **Legal and Political Economy Analyses of PPP Restructuring:** Legal scholars and political economists should examine legal frameworks for converting legacy sub-national public debt liabilities into private equity, analyzing legal strategies to resolve host community land claims without protracted court litigation.
5. **Longitudinal Environmental and Public Health Impact Audits:** Environmental scientists and urban planners should conduct environmental impact assessments across legacy brownfield sites (such as Nigercem Nkalagu and Asaba Textile) to measure industrial contamination levels, soil degradation, and heavy metal concentrations prior to full re-tooling.

References

- Ahazuem, J. O., & Falola, T. (1987). Production for the metropolis: Agriculture and industrialization in colonial Nigeria. In T. Falola (Ed.), *Britain and Nigeria: Exploitation or development?* (pp. 80–98). Zed Books.
- Anyanwu, C. M. (2012). *Productivity and capacity utilization in the Nigerian manufacturing sector* (Occasional Paper No. 38). Central Bank of Nigeria.

- Awa, E. O. (1964). *Federal government in Nigeria*. University of California Press. <https://doi.org/10.1525/9780520314023>
- Birch, S. (2011). *Electoral malpractice*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199606160.001.0001>
- Brautigam, D. (1997). Substituting for the state: Institutions and industrialization in East Asia and Nigeria. *Comparative Politics*, 29(2), 111–135. <https://doi.org/10.2307/422079>
- Central Bank of Nigeria. (2023). *Statistical bulletin: Real sector statistics* (Vol. 34). Central Bank of Nigeria.
- Chenery, H. B., & Taylor, L. (1968). Development patterns: Among countries and over time. *The Review of Economics and Statistics*, 50(4), 391–416. <https://doi.org/10.2307/1926801>
- Chukwu, C. N. (2014). The rise and fall of manufacturing industries in South-Eastern Nigeria, 1970–2010. *Journal of African Political Economy and Development*, 19(2), 45–68.
- Diamond, L. (1999). *Developing democracy: Toward consolidation*. Johns Hopkins University Press.
- Ekundare, R. O. (1973). *An economic history of Nigeria 1860–1960*. Methuen & Co.
- Ezeani, E. O. (2005). Electoral malpractices in Nigeria: Causes, manifestations and remedies. *Nigerian Journal of Public Administration and Local Government*, 12(1), 12–29.
- Flegg, A. T., & Webber, C. D. (2000). Regional size, interregional trade, and location quotients: An empirical evaluation. *Regional Studies*, 34(6), 563–571. <https://doi.org/10.1080/00343400050083501>
- Forrest, T. (1994). *The advance of African capital: The growth of Nigerian private enterprise*. Edinburgh University Press. <https://doi.org/10.3366/j.ctv1v7zdv8>
- Hardin, G. (1968). The tragedy of the commons. *Science*, 162(3859), 1243–1248. <https://doi.org/10.1126/science.162.3859.1243>
- Hausmann, R., & Hidalgo, C. A. (2009). The building blocks of economic complexity. *Proceedings of the National Academy of Sciences*, 106(26), 10570–10575. <https://doi.org/10.1073/pnas.0900946106>
- Heller, M. A. (1998). The tragedy of the anticommons: Property in the transition from Marx to markets. *Harvard Law Review*, 111(3), 621–688. <https://doi.org/10.2307/1342203>
- Hirschman, A. O. (1958). *The strategy of economic development*. Yale University Press.
- Im, B. H. (2000). South Korean democratic consolidation in comparative perspective. In L. Diamond & B. Kim (Eds.), *Consolidating democracy in South Korea* (pp. 21–52). Lynne Rienner Publishers.
- Iwuagwu, O. (2006). The cluster route to industrialization: The experience of Aba textile and leather clusters. *Nigerian Journal of Economic and Social Studies*, 48(2), 211–233.
- Kilby, P. (1969). *Industrialization in an open economy: Nigeria 1945–1966*. Cambridge University Press.
- Linz, J. J., & Stepan, A. (1997). Toward consolidated democracies. In L. Diamond (Ed.), *Consolidating the third wave democracies* (pp. 14–33). Johns Hopkins University Press.
- Martin, S. M. (1988). *Palm oil and protest: An economic history of the Ngwa region, South-Eastern Nigeria, 1800–1980*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511563034>
- McMillan, M. S., & Rodrik, D. (2011). *Globalization, structural change and productivity growth* (NBER Working Paper No. 17143). National Bureau of Economic Research. <https://doi.org/10.3386/w17143>
- Meagher, K. (2010). *Identity economics: Social networks and the informal economy in Nigeria*. James Currey / Oxford University Press.

- Murphy, K. M., Shleifer, A., & Vishny, R. W. (1989). Industrialization and the big push. *Journal of Political Economy*, 97(5), 1003–1026. <https://doi.org/10.1086/261641>
- National Bureau of Statistics. (2023). *Labor force survey report & Nigerian national accounts*. National Bureau of Statistics.
- Nnaji, B., Ogbu, O., & Chukwu, S. (2021). Independent power supply and industrial cluster sustainability: Empirical insights from the Aba Geometric project. *African Development Review*, 33(3), 412–427. <https://doi.org/10.1111/1467-8268.12582>
- North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511808678>
- Nwabueze, B. O. (1986). *A constitutional history of Nigeria*. Longman.
- Obi, C. (2022). Industrial governance, structural transformation, and capacity utilization in post-colonial West Africa. *African Journal of Development Economics*, 31(2), 88–114.
- Obi, C. (2023). Anti-commons property paralysis and public sector industrial asset decay in Nigeria. *Journal of Regional and Urban Economics*, 45(1), 132–158.
- Ogbudimkpa, R. N. (1985). *The economics of the Nigerian Civil War: The Biafran experience*. Fourth Dimension Publishers.
- Okigbo, P. N. C. (1965). *Nigerian public finance*. Northwestern University Press.
- Onyemelukwe, J. O. C. (1974). Industrial location in Nigeria. In B. S. Hoyle (Ed.), *Spatial aspects of development* (pp. 123–144). John Wiley & Sons.
- Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511807763>
- Rodrik, D. (2007). *One economics, many recipes: Globalization, institutions, and economic growth*. Princeton University Press. <https://doi.org/10.1515/9781400829354>
- Rosenstein-Rodan, P. N. (1943). Problems of industrialisation of Eastern and South-Eastern Europe. *The Economic Journal*, 53(210/211), 202–211. <https://doi.org/10.2307/2226317>