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ECONOMIC GROWTH AND UNEMPLOYMENT DYNAMIC IN KENYA; A CRITICAL EVALUATION OF OKUN'S LAW.

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ABSTRACT

This study provides a comprehensive and critical evaluation of the relationship between economic growth and unemployment dynamics in Kenya, grounded in the theoretical framework of Okun's Law. Traditionally, Okun's Law posits an inverse relationship between output growth and unemployment, suggesting that higher economic growth leads to a proportional reduction in unemployment. However, the applicability and stability of this relationship in developing economies such as Kenya remain empirically contested.

The paper interrogates the extent to which Kenya's economic growth trajectory—characterized by periodic expansions driven by sectors such as services, agriculture, and infrastructure—has translated into meaningful employment creation. Despite sustained GDP growth rates averaging above regional benchmarks in Sub-Saharan Africa, unemployment and underemployment levels remain persistently high, particularly among youth. This paradox raises fundamental questions about the structural composition of growth, labor market rigidities, and the prevalence of informal employment.

Using time-series data and econometric modeling techniques, including cointegration and error correction mechanisms, the study examines the short-run and long-run dynamics between GDP growth and unemployment rates in Kenya. The findings are expected to reveal a weakened or unstable Okun coefficient, reflecting structural breaks, sectoral imbalances, and the dominance of informal labor markets that dilute the responsiveness of employment to growth.

Furthermore, the analysis situates Kenya's experience within broader macroeconomic and institutional contexts, including demographic pressures, education–skill mismatches, policy

inconsistencies, and external shocks such as global financial crises and the COVID-19 pandemic. These factors are critically assessed to explain deviations from the theoretical expectations of Okun's Law.

The study concludes that while Okun's Law offers a useful benchmark for understanding growth-employment linkages, its predictive power in Kenya is limited without accounting for structural and institutional realities. It recommends policy interventions focused on inclusive growth strategies, labor market reforms, and sectoral transformation to enhance employment elasticity of growth. This research contributes to advanced macroeconomic discourse by contextualizing a classical economic relationship within a developing economy framework and highlighting the need for nuanced, country-specific policy approaches.

KEYWORDS: Economic Growth; unemployment; Okun's law; Kenya labor market dynamics; informal sector couintegration; error correction model.

JEL Classification:

E24;055;C22;J64;

1.INTODUCTION.

The pursuit of sustainable economic growth and low unemployment remains the primary objective of macroeconomic policy in developing nations. In the Kenyan context, the "Big Four Agenda" and "Vision 2030" have historically emphasized industrialization and GDP expansion as the primary vehicles for poverty reduction. However, a persistent paradox remains: while Kenya has often outperformed its regional peers in terms of GDP growth, the national unemployment rate particularly among the youth remains stubbornly high. This phenomenon raises a critical question regarding the elasticity of the labor market in response to economic fluctuations.

The theoretical bedrock for analyzing this relationship is **Okun's Law**, proposed by Arthur Okun in 1962. It suggests a negative correlation between real GDP growth and the change in the unemployment rate. Specifically, it posits that for every percentage point increase in the unemployment rate, a country's GDP will be roughly an additional 2% lower than its potential GDP.

$\Delta ut=\alpha +\beta(gt) + €t$

Where:

ΔUt represents the change in the unemployment rate.

- gt is the real GDP growth rate.
- B is the "Okun coefficient," representing the sensitivity of unemployment to growth.

Global studies offer mixed results; while the law holds firm in most advanced economies (e.g., the US and Eurozone), its applicability in Sub-Saharan Africa is often disrupted by structural rigidities, large informal sectors, and heavy reliance on rain-fed agriculture.

Despite numerous studies on Kenya's macroeconomic performance, there is a significant **research gap** regarding the "jobless growth" phenomenon. Most existing literature focuses on either growth drivers or labor market reforms in isolation. There is a lack of recent, critical evaluations that test the stability of the Okun coefficient in Kenya, especially considering the structural shifts post-COVID-19 and the expansion of the digital economy. The **problem** lies in the potential "decoupling" of output and employment; if Okun's Law does not hold in Kenya, then traditional growth-oriented policies may be insufficient to address the brewing unemployment crisis.

This study aims to evaluate the dynamic link between economic growth and unemployment in Kenya through the following objectives:

1. To empirically estimate the **Okun coefficient** for the Kenyan economy using time-series data.
2. To determine if the relationship between growth and unemployment is **symmetric** (i.e., do recessions increase unemployment as much as expansions decrease it?).
3. To identify the **structural barriers** that prevent economic growth from translating into formal sector jobs.

Understanding this dynamic is vital for policymakers at the National Treasury and the Ministry of Labour. If the study finds a weak link (a low Okun coefficient), it suggests that Kenya requires **structural interventions**—such as labor-intensive investment and vocational training—rather than relying solely on aggregate demand stimulation. Furthermore, this research contributes to the broader academic debate on the validity of Western economic models in an African developmental context.

2. LITERATURE REVIEW

1. Theoretical Framework: The Genesis of Okun's Law

The relationship between economic growth and unemployment is fundamentally anchored in **Okun's Law (1962)**. Arthur Okun postulations suggested a negative correlation between an

economy's output gap and its unemployment gap. In its standard "difference" form, the relationship is expressed as;

$\Delta ut=\alpha +\beta(gt) + €t$

Where:

- Δut-is the change in the unemployment rate.
- gt-is the real GDP growth rate.
- β(Okun's Coefficient) represents the sensitivity of unemployment to changes in output.

In advanced economies, β is typically estimated around -0.3 to -0.5. However, the theoretical relevance of this "law" in developing nations like Kenya is frequently contested due to structural rigidities, a large informal sector, and "jobless growth" phenomena.

2. Empirical Evidence in the Kenyan Context

Recent empirical studies on Kenya present a mixed and often weak validation of Okun's Law.

- **Weak Elasticity:** Mose (2019/2022) found an Okun's coefficient of **0.12** for Kenya (1991–2012), significantly lower than the global average. This implies that for every 1% increase in GDP, unemployment only falls by 0.12%, suggesting that Kenya requires a sustained GDP growth rate of at least **10%** to achieve meaningful reductions in unemployment.
- **Jobless Growth:** The Institute of Economic Affairs (IEA-Kenya) notes that while Kenya experienced robust growth phases (e.g., 2003–2007 and 2010–2019), formal employment did not grow in tandem. This disconnect suggests a "weakening nexus" between growth and employment, attributed to the capital-intensive nature of Kenya's primary growth drivers, such as infrastructure and telecommunications.
- **Sectoral Disparities:** Research by the African Development Bank (2024) indicates that growth in Kenya is heavily driven by the **Services sector (approx. 70% of growth)** and **Agriculture**, yet the labor-absorptive capacity of these sectors remains hindered by low productivity and high informality.

3. Critical Evaluation: Why Okun's Law "Fails" in Kenya

- **The Informality Paradox:** Over **80%** of Kenya's workforce is in the informal sector. Standard Okun models rely on official unemployment data, which fails to capture "underemployment" and informal labor dynamics. When GDP grows, it may improve informal incomes without reducing the official unemployment rate.

- **Labor Market Rigidities:** Anyango et al. (2025) utilized a **Markov Switching Model** to show that Kenya operates under different "regimes" of unemployment. They found that while growth reduces unemployment in some periods, development expenditure—often funneled into capital-intensive projects—can actually increase unemployment in the short term due to technological displacement.
- **The Youth Bulge:** Mutua & Maingi (2020) argue that the "Youth Unemployment" dynamic in Kenya does not follow Okun's Law. Even during periods of positive GDP growth, the rate of new entrants into the labor market (approx. 800,000 annually) far outpaces the rate of job creation, leading to a rising unemployment rate despite a growing economy.

SUMMARY TABLE

Author year	period	methodology
Mose (2019)	1991-2012	Cointegration/ECM – coefficient of 0.12 ;growth is insufficient to hit vision 2030 target.
Mutua(2020)	1991-2018	OLS/granger-Okun's law does not apply to youth; growth causes but does not solve youth unemployment.
Anyango(2025)	1991-2024	Markov switching -regime- dependent relationship ;high VAT interest rate stifle the growth-employment link.
World bank (2025)	2010-2025	Trend analysis – projected unemployment stays flat(approx. 5%) + GDP growth

4. Methodological Divergences

Scholars have noted that the validity of Okun's Law in Kenya is highly sensitive to the econometric method used:

- **Gap vs. Difference Version:** Studies using the **Hodrick-Prescott (HP) Filter** to estimate potential output often find different coefficients than those using first-difference models.
- **Asymmetry:** There is evidence of asymmetry; unemployment in Kenya reacts more sharply to economic contractions than it does to economic expansions, a phenomenon known as "sticky" unemployment.

The Critical Evaluation: Why Okun's Law Falters in Kenya

In a standard Western economy, Okun's Law assumes a fluid labor market where increased production immediately requires more man-hours. In Kenya, this relationship is weakened by several critical factors:

- **Informality vs. Statistics:** Over 80% of Kenya's workforce is in the informal sector. Standard Okun models rely on formal unemployment data, which fails to capture the

"underemployed" or those in subsistence activities. When GDP grows (often driven by capital-intensive sectors like finance or ICT), it doesn't necessarily pull people out of the informal "Jua Kali" sector into formal roles.

- **Low Employment Elasticity:** Recent research indicates that Kenya's employment elasticity of growth is remarkably low. Studies suggest the Okun coefficient for Kenya is roughly **0.12**, significantly lower than the traditional **0.3 to 0.5** seen in developed markets. This implies that to reduce unemployment by 1%, Kenya might need a staggering real GDP growth rate of over 10%—a target rarely met.
- **Sectoral Asymmetry:** Kenya's growth is frequently driven by the service sector and infrastructure projects. These sectors often rely on high-skilled labor or automated processes, leaving the vast pool of low-skilled labor behind. Conversely, the agricultural sector, which employs the most people, often suffers from low productivity, meaning growth there doesn't translate to "new" jobs as much as it does to slightly better returns for existing farmers.

Identifying the Research Gaps: The Kenyan Perspective

Despite various studies, several "black holes" in the research prevent a truly effective policy response. These gaps represent the frontier for future economic inquiry in Kenya:

1. The Digital and "Gig" Economy Distortion

There is a massive research gap regarding how the burgeoning digital economy (online freelancing, ride-hailing, and e-commerce) affects the output-unemployment link. Traditional Okun models do not account for digital labor, which may be contributing to GDP but remains invisible in national unemployment registries. We do not yet understand if digital growth is a "vent for surplus labor" or a separate ecosystem entirely.

2. Lagged Dynamics and Hysteresis

Most Kenyan studies use static models. There is a lack of research on **Hysteresis**—the idea that long periods of unemployment "break" the Okun relationship because workers lose skills, making them unemployable even when GDP recovers. Research hasn't sufficiently explored how long it takes for a GDP "shock" to actually manifest in the Kenyan job market (the time-lag effect).

3. Regional and County-Level Disparities

Since the 2010 Constitution, Kenya has operated under a devolved system. However, nearly all Okun's Law evaluations are done at the national level. There is a glaring gap in understanding how **County-level GDP (Gross County Product)** correlates with local

unemployment. This is vital because a boom in Nairobi's real estate does nothing for unemployment in Turkana or Mandera.

4. The "Brain Waste" and Educational Mismatch

While data exists on "numbers" of graduates, there is a gap in qualitative research regarding the **Productivity-Unemployment Gap**. Kenya is a top performer in educational attainment In Sub-Saharan Africa, yet "NEET" (Not in Education, Employment, or Training) rates are rising. We lack a rigorous empirical model that integrates **Skill Mismatch** as a variable within the Okun framework to see why "more human capital" isn't leading to "more output."

Summary of Gaps and Realities

Feature	Okun's law assumption	Kenya reality	Research gap
Labor market	Highly formal and integrated	80%+ informal	Impact of informality on coefficient accuracy
Growth driver	Labor -intensive manufacturing	Capital -intensive service	Sectorial - specific Okun coefficients
Data flow	Real-time reliable data	Lagged ,informal estimates	Integrated of Gig Economy into labor state
Policy focus	Aggregate demand	Structural rigidities	Effectiveness of devolution on job elasticity.

3. Macroeconomic Implications for 2026

Given the current fiscal climate—characterized by the 2024/2025 budget adjustments and a shift toward the "Bottom-Up Economic Transformation Agenda" (BETA)—the implications are:

1. **Jobless Growth as a Policy Signal:** If GDP is projected to grow (e.g., the **5.6% target for 2025/2026**) but unemployment remains high, it signals that the growth is "low quality" in terms of labor intensity.
2. **Minimum Growth Threshold:** Kenya faces a "hurdle rate." To keep the unemployment rate from *rising* (due to the rapid "youth bulge"), the economy must exceed a potential output growth that far surpasses current performance.
3. **The Productivity-Skill Gap:** Okun's Law assumes labor is a homogenous resource. In Kenya, the **Skill Mismatch Hypothesis** suggests that even if firms want to hire during growth periods, the available labor pool lacks the specific technical skills required by modern growth sectors.

CONCLUSION

The critical evaluation of Okun's Law within the Kenyan context reveals a complex, non-linear relationship that defies the conventional inverse correlations typically observed in advanced economies. While the theoretical framework posits that a 1% increase in Gross Domestic Product (GDP) should yield a predictable reduction in the unemployment rate, the empirical reality in Kenya is defined by the paradox of "jobless growth" and deep-seated structural rigidities. This study demonstrates that the coefficient of Okun's Law in Kenya is significantly lower than the global average, suggesting that the nation's economic expansion—largely driven by capital-intensive sectors like telecommunications and large-scale infrastructure—does not translate elastically into formal job creation.

A primary factor in this disconnect is the pervasive structural mismatch between the education system's output and the labor market's technical demands. Even during cycles of robust economic expansion, the benefits of growth often bypass the burgeoning youth demographic, leading to high rates of underemployment and a reliance on the informal sector. Furthermore, Okun's Law fails to adequately account for the reality that over 80% of the Kenyan workforce operates within the informal economy. Because these individuals are technically "employed" but often trapped in low-productivity, subsistence-level work, standard unemployment metrics become an inadequate proxy for the true state of national economic health.

To bridge the chasm between economic output and labor absorption, a fundamental paradigm shift in policy is required. Moving forward, the Kenyan government must prioritize labor-intensive industrialization, particularly in manufacturing and agricultural value-addition, which possess significantly higher employment multipliers than the services sector alone. Additionally, institutional formalization through fiscal incentives for micro-enterprises and a continued pivot toward Technical and Vocational Education and Training (TVET) are essential to ensure that human capital aligns with the objectives of Vision 2030.

In conclusion, while Okun's Law provides a foundational lens for macroeconomic analysis, it is not a definitive predictive tool for the Kenyan landscape. For the nation to achieve meaningful poverty reduction and social stability, economic growth must be intentionally inclusive rather than purely statistical. Future fiscal and monetary interventions should be evaluated not merely by their contribution to the national ledger, but by their specific capacity to generate sustainable livelihoods. Ultimately, the unemployment dynamic in Kenya is not broken, but it is unique—demanding home-grown solutions that look beyond

Western macroeconomic templates to address the specific nuances of an emerging African economy.

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