

DISPROPORTIONS IN THE ECONOMY AND THE IMPACT OF THE "MIDDLE-INCOME TRAP" ON STRUCTURAL TRANSFORMATION

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Abstract

The article "Economic Disproportions and the Impact of the 'Middle-Income Trap' on Structural Transformation" explores existing structural imbalances within the domestic economy and analyzes how the "middle-income trap" affects economic modernization. The author identifies systemic regularities that impede structural shifts and demonstrates that the middle-income trap dampens GDP growth rates, amplifies vulnerability to external shocks, exacerbates income inequality, induces human capital flight, and accelerates capital outflows. Concurrently, the paper underscores that the strategic course pursued by the Government of Azerbaijan has successfully generated positive socio-economic developments. The nation's steady, incremental, and sustainable development path validates the selected trajectory, demonstrating the viability and real-world efficacy of the Azerbaijani model of socio-economic development.

Keywords: investment, transformation, development, economic regularities, innovations, productivity, effectiveness.

Introduction

Activating state intervention in national economic development facilitates the optimization of production structures, thereby ensuring the operational efficiency of economic systems. The primary goal is to drive economic growth and development through qualitative growth factors, which encompass scientific advancements and new knowledge. Achieving a rational alignment between innovation and professional qualifications is essential to generate synergistic effects. Human capital stands out as the ultimate competitive advantage of the post-oil economy. Under conditions of rapid economic volatility and high uncertainty, the emergence of a new technological paradigm satisfies expanding societal needs while facilitating a transition from quantitative accumulation to qualitative transformation.

It is highly advisable to implement a product-priority strategy designed to advance economic complexity and bolster the economy's innovative development trajectory. The foundational premise is that long-term economic resilience is achieved not through resource rent or financial reserves, but via the continuous capacity of the economy to generate complex, knowledge-intensive goods. The successful implementation of

large-scale projects depends less on the volume of financial injections and more on the quality and efficacy of the governance framework. Consequently, optimizing public expenditures represents a vital avenue for discovering latent financial resources [1].

Modern economic growth is fundamentally characterized by the leading role of scientific, technical, and technological progress, alongside the intellectualization of core production factors [6]. A defining feature of contemporary growth is the institutionalization of continuous innovation within management practices. The existing economic structure serves as a pivotal determinant of growth, as it dictates the potential growth ceiling and determines which structural adjustments will catalyze future expansion or stall necessary modernization [7]. The urgency of this issue stems from the fact that the macroeconomic impacts of innovative development are currently delayed. Based on established development patterns, identifying mechanisms to rectify structural disproportions is essential for executing a successful structural transformation [2].

Regularities in national economic development

The contemporary economic trajectory of the country exhibits several distinct patterns and systemic regularities:

- Conceptual understandings of these patterns are rooted in theories of uneven, cyclical development, which consist of successive stages corresponding to specific structural states of the economy.

- Regressive structural shifts have occurred historically, causing economic growth to remain predominantly extensive and limiting the establishment of a foundation for qualitative development.

- The technological and production layout is highly fragmented and heterogeneous, exhibiting a simultaneous coexistence of obsolete, intermediate, and advanced technologies that signals a structural imbalance in production.

- A contraction of investment potential within the machinery sector has triggered technological degradation, reduced total output volumes, and diminished overall market competitiveness and operational efficacy.

- The minimal decline observed in the Fuel and Energy Complex (FEC) highlights the persistent resource-dependent orientation of the industrial sector and the wider economy.

- The expansion of the private sector occurred primarily through the privatization of state assets, which led to the fragmentation of the state sector's industrial base while producing a private sector initially hesitant to invest in high-risk innovations.

- While structural efficiency by share of output declined in the public sector and rose in the private sector, the aggregate efficiency of these structural reallocations remains marginal.

- Trends in fixed capital investment show an expanding private sector share and a contracting public sector share, demonstrating a shift in investment flows; however, this trend has not consistently triggered the renewal or replacement of fixed assets.

- The domestic economic structure exhibits high structural inertia, as evidenced by structural distortions between accumulation and consumption, monopolistic tendencies, resource dependence, and low inter-sectoral capital mobility, alongside a low share of qualitative structural adjustments in manufacturing.

- Structural shifts have historically unfolded spontaneously, failing to optimize industrial composition while disproportionately strengthening the financial sector, creating a disconnect between the financial and real production sectors.

- Economic growth remains highly dependent on resource rents and public expenditures; this growth has yet to translate into sustained productivity gains or a broader tax base, rendering a reform of rent allocation and expenditure control critical [8].

Under these conditions, economic diversification is essential to establish the prerequisites for structural transformation. Sustainable development can only be realized by transitioning from a resource-stabilization model toward an "endogenous-diversified and institutionally-inclusive model" of economic development. In this proposed framework, systemic resilience is built upon technological complexity, inclusive institutions, and innovations within the real sector of the economy. Structural transformation must fundamentally reshape

the growth paradigm by boosting productivity, stimulating private investment, and channeling resource revenues into human capital and advanced technologies. This necessitates large-scale diversification to avoid economic stagnation, particularly since historical rapid growth was heavily supported by resource revenues, public spending, and external price factors [3].

Comparative theoretical approaches to structural transformation

The economic policy executed between 2020 and 2025 represents a hybrid model combining Keynesian, institutional, neoclassical, and socially oriented approaches, reflecting an adaptive response to shifting internal and external environments. While state reserves and state-led initiatives have successfully maintained macroeconomic stability, a complete structural transformation for post-oil development remains a long-term priority. The theoretical foundations of this structural transformation model rely on:

- Endogenous growth: maximizing knowledge, human capital, and continuous innovation.
- Economic complexity: enhancing technological depth and diversifying export complexity.
- Institutional economics: strengthening inclusive institutions and promoting open market competition.
- New industrial policy: utilizing the state as a strategic coordinator and facilitator.
- Sustainable/green economy: integrating environmentally conscious growth trajectories.

The main features of the "Middle-income trap"

The middle-income trap profoundly alters the course of structural transformation. Upon entering this trap, a nation's extensive growth factors become exhausted while new growth engines fail to develop maturely. The competitive advantage of low-cost labor diminishes, and technical-technological innovation capacity slows down. This necessitates an immediate transition toward intensive, innovation-driven economic growth rooted in high productivity [5].

In this context, structural transformation is defined as the transition toward a knowledge-based economy prioritized around complex, high-tech industries that generate substantial added value. Elevating the role of human capital through advanced education and scientific research is critical to building the innovation capacity required to exit the trap [6]. Structural vulnerabilities associated with the trap include industrial stagnation, low export diversification, a prominent low-productivity service sector, insufficient protection of intellectual property rights, and educational pipelines aligned with obsolete economic models [4].

Ultimately, the middle-income trap acts as a major barrier preventing an economy from advancing from a "catching-up" paradigm to an endogenous-diversified and institutionally-inclusive model. To break this cycle, the state must take an active role, as unguided market mechanisms may lack the regulatory capacity to correct these deep imbalances on their own.

Key priorities of modern socio-economic development.

The government's economic policy focuses on generating inclusive rather than merely aggregate

growth, ensuring that developmental benefits are distributed evenly across the socio-economic spectrum. Inclusive development guarantees equal socio-economic starting conditions, allowing every citizen to realize their creative and productive potential. This approach relies on optimized labor organization, enhanced workforce motivation, and strong strategic planning alongside high-tech adoption.

The Republic of Azerbaijan has achieved notable milestones by emphasizing non-oil sector diversification, implementing transparency reforms, and improving the broader investment climate. Poverty and unemployment rates have been minimized to historically low levels of approximately 5 percent. Furthermore, initiatives like the "Digital Silk Road" project—which includes deploying a fiber-optic network across the Caspian Sea floor—aim to establish the nation as a key regional digital hub.

The current economic model integrates five inter-dependent pillars tailored to the country's governance structure and strategic goals:

- Strong and effective governance: clarifying and strengthening the state's strategic management and coordination capabilities.
- Investment inflow model: maximizing investment efficiency as a core engine of broader economic development.
- Export development model: prioritizing import substitution and channeling export revenues into domestic economic diversification.
- Priority industrial and agricultural development: targeting strategic non-oil real sectors to build a balanced domestic output.
- Effective social policy: maintaining social equity and human welfare as the core foundation of the economic paradigm.

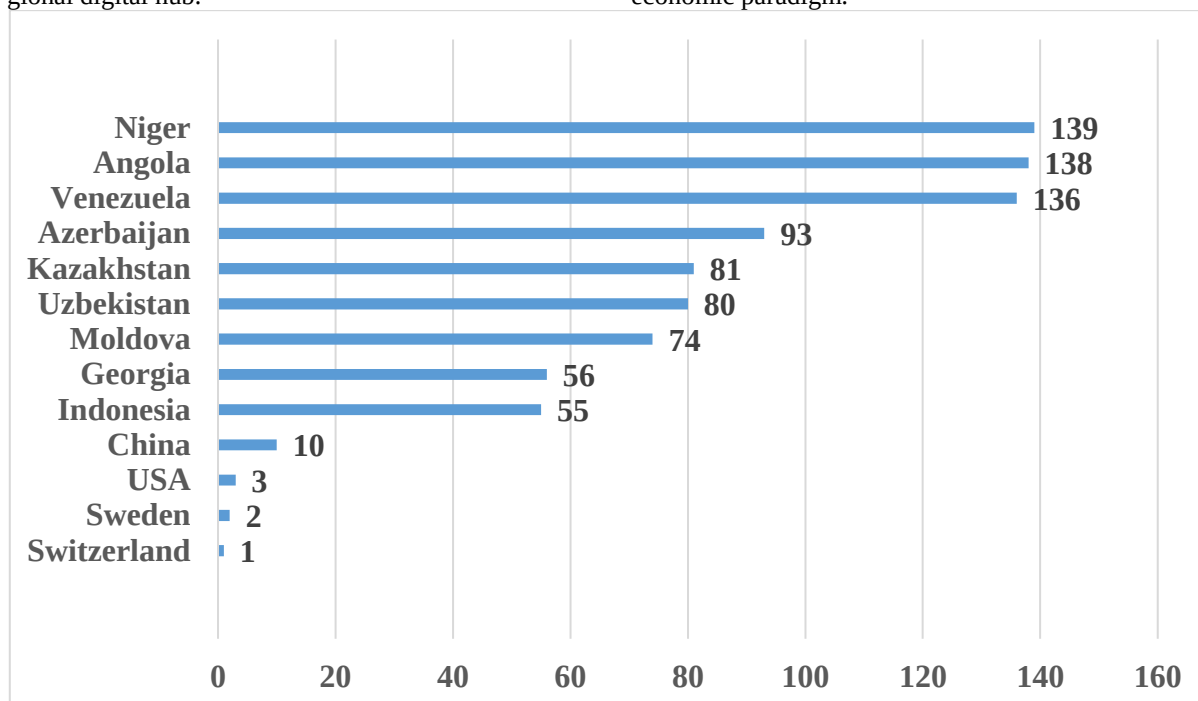


Figure 1. Comparison of the Global Innovation Index (GII) by selected countries (2025)

Source: Innovation index by country, around the world https://www.theglobaleconomy.com/rankings/gii_index/

In recent years, highly volatile fluctuations have been recorded in the Global Innovation Index parameters on a worldwide scale. To illustrate, empirical metrics for 2025 reveal that Switzerland, Sweden, and the United States continuously maintained their dominance within the top three global tiers. Concurrently, a structural divergence is observed within post-soviet economies; specifically, Georgia advanced to the 56th position, followed by Moldova at 74th, and Kazakhstan at 81st, whereas the Republic of Azerbaijan was situated at the 93rd rank. Regarding the Asian macroeconomic

landscape, China consolidated its position within the elite echelon at 10th place, while Indonesia secured the 55th spot. Conversely, evaluating the Sub-Saharan African context, acute technological disparities persist, with Angola and Niger occupying the lower limits at 138th and 139th places, respectively. The resulting diagnostic synthesis underscores that mitigating these technological gaps necessitates an imperative, state-led deployment of cutting-edge innovative systems across core economic sectors within post-soviet jurisdictions, most notably in the Republic of Azerbaijan (Figure 1).

Table 1.

Comparative Macroeconomic matrix between Azerbaijan and Indonesia (in USD)		
Indicators	Azerbaijan	Indonesia
GDP (US\$)	72,36 billion USD (2023)	1,37 trillion USD (2023)
GDP growth (annual %)	1,2% (2023)	5,05% (2023)
Tax revenue (% of GDP)	13,42% (2021)	11,60 (2022)
Employment in services (% total employment)	49,26 % (2022)	48,85 % (2022)

Source : Azerbaijan vs Indonesia - Country Comparison [https://globalstatcompare.com/compare?countries\[\]=AZE&countries\[\]=IDN](https://globalstatcompare.com/compare?countries[]=AZE&countries[]=IDN)

In recent years, robust macroeconomic growth trajectories have been recorded in the Gross Domestic Product (GDP) volumes of the Republic of Azerbaijan, within the post-Soviet landscape, and Indonesia, within the Asian economic sphere. To illustrate, empirical data from 2023 indicates that the nominal GDP of Azerbaijan reached 72.36 billion USD, whereas the corresponding Indonesian metric expanded to approximately 1.37 trillion USD. Concurrently, divergent paths were

observed in real GDP growth dynamics, with Azerbaijan registering a 1.2% expansion rate compared to a more accelerated 5.05% growth rate exhibited by Indonesia. Furthermore, structurally evaluating labor market allocations reveals a striking symmetry in tertiary sector engagement; specifically, the services sector accounted for 49.26% of total employment in the Republic of Azerbaijan, closely mirrored by Indonesia at 48.85% (Table 1).

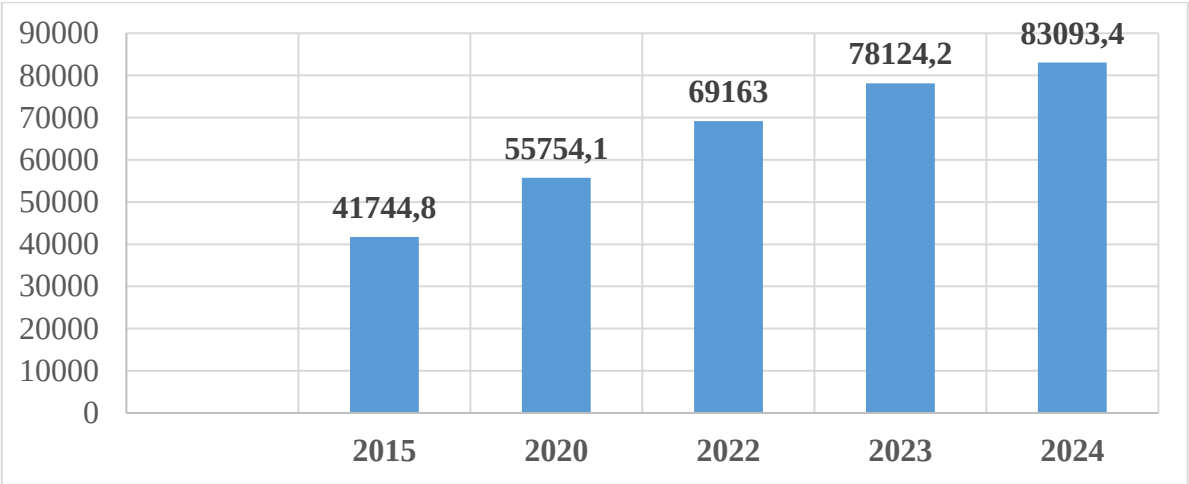


Table 2. Statistical indicators of fluctuations in nominal income of the population in the Republic of Azerbaijan (Million AZN, fixed exchange rate: 1 USD = 1.70 AZN)

Source: Statistical yearbook 2025. https://www.stat.gov.az/menu/6/statistical_yearbooks/source/stat-yearbook_2025.pdf

In recent years, substantial evolutionary shifts and transformative trends have been documented within the dynamic trajectories of aggregate population income inflows in the Republic of Azerbaijan. To illustrate, empirical metrics indicate that while the nominal volume of personal income generated nationwide stood at 41,744.8 million AZN in 2015, this macroeconomic parameter expanded significantly to reach 69,163.0 million AZN by 2022. Furthermore, by 2024, the total income volume further accelerated, culminating in an unprecedented high of 83,093.4 million AZN. This sustained and exponential upward trajectory in household income accumulation is fundamentally driven by the successful implementation of comprehensive socio-economic strategic structural reforms and robust state-led initiatives executed across the Republic of Azerbaijan in recent periods (Table 2).

Conclusion

A synthesis of the research reveals that while economic policies have successfully maintained short-term

macroeconomic stability, addressing the tension between short-term stability and long-term structural transformation remains vital. The nation possesses the financial reserves necessary to execute structural reforms and mitigate middle-income trap risks. The performed analysis indicates that implementing required economic measures is crucial for ensuring the sustainable economic development of the Republic of Azerbaijan. Ongoing initiatives including green energy clusters in Karabakh and Eastern Zangezur, the expansion of the Middle Corridor, and the digitalization of public services are actively building the foundation for an innovation-driven knowledge economy. Transitioning from a resource-stabilization model to an endogenous-diversified and institutionally-inclusive framework will allow the country to continuously generate complex products, secure sustainable growth, and solidify its role as a regional economic and logistics hub. Overall, the performed analysis indicates that ensuring the economic development of the Republic of Azerbaijan requires the study and implementation of the economic

development models of countries like China, Malaysia, South Korea, Singapore, and Indonesia.

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