

A COMPOSITE INDEX-BASED ASSESSMENT OF ECONOMIC GROWTH QUALITY IN DA NANG CITY DURING THE PERIOD 2015–2023

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Received August 1, 2025. Revised August 28, 2025. Accepted October 14, 2025.

Abstract. Amid growing emphasis on sustainable development, evaluating the quality of economic growth has become a vital priority for local governments. This study proposes a multi-dimensional evaluation framework and a composite index to assess the quality of economic growth in Da Nang City from 2015 to 2023. The study applies 29 indicators grouped into four key dimensions - economic efficiency, social welfare, environment and security, and governance capacity - and employs the FPPSI method (Full Permutation Polygon Synthetic Indicator) to normalize indicators and construct the composite index. The findings reveal that the quality of Da Nang's economic growth remains moderate, with the composite index ranging from 0.43 to 0.45 during the period 2015-2023. Among the dimensions, social welfare exhibited the most notable improvement, reaching a good level in 2023 (0.71), followed by environment and security (0.55). In contrast, economic efficiency recorded the weakest performance, with a steep decline during the COVID-19 period (0.10 in 2021) and only a partial recovery by 2023 (0.24). Governance capacity showed minimal fluctuation, staying consistently below the good threshold (0.31). These findings highlight the need for Da Nang to enhance economic efficiency, environmental protection, and strengthen governance systems to improve the quality of its economic growth toward long-term sustainability.

Keywords: economic growth, quality of economic growth, sustainable development, composite index, Da Nang.

1. Introduction

Economic growth is commonly defined as the sustained increase in the aggregate output of an economy over a specific period, typically quantified through indicators such as Gross Domestic Product (GDP), Gross National Income (GNI), GDP per capita, or per capita income [1]. As a foundational pillar of development, economic growth plays a critical role in poverty alleviation, modernization, and the overall enhancement of living standards. Furthermore, sustained economic growth provides the necessary material basis for reinforcing national defense capabilities, ensuring political stability, and strengthening the authority and governance capacity of the state [2]. Accordingly, in the early stages of national development, economic growth is frequently prioritized as a primary policy objective. Despite significant progress in economic expansion, countries around the world continue to confront persistent social challenges, including unmet social needs, widening income inequality, and emerging global threats such as climate

change, natural disasters, and the depletion of natural resources. Within this paradigm, the quality of economic growth has gained increasing attention among policymakers and scholars. Contemporary development strategies now prioritize not only the speed of growth but also its sustainability, inclusiveness, and long-term socio-environmental impacts [3]. The broadest understanding of economic growth quality often aligns with the concept of sustainable development. According to this perspective, a high-quality growth economy is typically characterized by several interrelated attributes. First, it maintains a high and stable growth rate over a long period. Second, it reflects efficiency in development, demonstrated through high and stable labor and capital productivity, an appropriate ICOR (Incremental Capital Output Ratio), and a significant contribution from total factor productivity (TFP). Third, the economic structure shifts progressively in alignment with the country's development capacity at each stage. Additionally, such an economy exhibits strong competitiveness, ensures improvements in social well-being, and harmonizes growth with the environment. Lastly, effective state governance plays a critical role in securing and maintaining these qualities of growth [4], [5].

Da Nang is the largest urban center in Vietnam's Central Region and has experienced substantial economic development, particularly since it was designated a centrally governed municipality in 1997. The city has since garnered recognition as one of the most "livable" cities in the country, owing to its strategic geographic location, increasingly modernized infrastructure, and a favorable investment climate. These advantages have enabled Da Nang to attract considerable domestic and foreign investment, resulting in consistently high economic growth rates and a structural transformation of the local economy towards industry and services. Despite these notable achievements, questions remain regarding the quality of Da Nang's economic growth, specifically, whether such growth is sustainable, inclusive, and aligned with broader development goals. Research on the quality of economic growth in Da Nang has drawn the attention of several authors, encompassing both comprehensive studies and in-depth evaluations. Nguyen (2007) [6] conducted a quantitative analysis of the growth resources to identify the main factors impacting Da Nang's economic growth from 1997 to 2010 and analyzed the economic growth relationship within regional linkages. The studies by Ong & Tran (2011) [7], Dang & Bui (2012) [8] focused on analyzing key indicators reflecting growth quality in various aspects before 2011, such as economic structure shifts, capital efficiency, labor, and social welfare. However, studies on Da Nang's economic growth quality have mainly stopped at analyzing economic and social indicators in isolation, often focusing on descriptive statistics or short-term trends. These fragmented approaches lack a cohesive analytical framework and fail to incorporate key dimensions such as environmental sustainability and governance capacity. As a result, they are insufficient to capture the multi-dimensional nature of growth quality or to provide policymakers with an integrated view of development performance. Moreover, the absence of a standardized composite measurement tool makes it difficult to track progress over time or to compare results across regions. This gap underscores the need for a more comprehensive and systematic methodology to evaluate the overall quality of economic growth in Da Nang, especially in the context of the city's aspirations for sustainable and inclusive development.

This research aims to assess the economic growth quality of Da Nang during 2015-2023 using a composite index constructed based on 29 suitable measurement indicators covering four core aspects of economic growth quality: economic efficiency, social welfare, environment and security, and governance capacity. The period 2015–2023 was selected because it marks the availability of standardized and comparable data across the four dimensions, coincides with major strategic planning cycles of Da Nang City, and captures both pre-pandemic dynamics and post-pandemic recovery, thereby offering a comprehensive view of growth quality trends. The indicators are normalized and synthesized using the Full Permutation Polygon Synthetic Indicator (FPPSI) method to calculate Da Nang's economic growth quality index. Furthermore, the comprehensive evaluation results provide an essential reference for the authorities to conduct a

thorough review of the economic development process and to formulate appropriate policies that foster high-quality growth towards sustainable development.

2. Content

2.1. Research materials and methods

2.1.1. Data and indicators related to the economic growth quality

A well-designed set of indicators should encompass different aspects of economic growth quality. They not only reflect the current situation but also indicate changes in the entire system over time. To date, there is no unified analytical framework for a set of indicators to assess the quality of economic growth. Based on the concept of economic growth quality and the current situation in Da Nang, the author applied the SMART criteria (Specific, Measurable, Available, Relevant, Time-related) to select key indicators that reflect the quality of economic growth across four dimensions: economic efficiency (8 indicators), social welfare (8 indicators), environment and security (6 indicators), and governance capacity (7 indicators). The final list includes 29 indicators presented in Table 1. The first column of the table reflects the dimensions of economic growth quality. The second column lists the indicators for each aspect. The subsequent columns show the actual values achieved by Da Nang over key years: 2015, 2019, 2021, and 2023. Data were collected by the author from statistical yearbooks of the city and the country, as well as reports from local agencies and related studies [9], [10], [11], [12], [13], [14], [15], [16], [17], [18], [19], [20], [21], [22], [23], [24]. To ensure vertical comparability of the indicator system, the indicators are processed in two forms: positive impact indicators (favorable) and negative impact indicators (unfavorable). Favorable indicators are marked with a "+", indicating that higher values are positive, while unfavorable indicators are marked with a "-", indicating that higher values are negative.

Table 1. Data for assessing economic growth quality in Da Nang from 2015 to 2023

Dimension	Indicator	Unit	Threshold value	2015	2019	2021	2023
Economic Efficiency	Average labor productivity (+)	(million VND/ person /year)	206.6	141.1	187.7	202.1	212.0
	Incremental Capital Output Ratio (ICOR) (-)	Coefficient	6.7	5.8	5.9	44.4	15.4
	Growth of Total Factor Productivity (TFP) (+)	%	3.3	2.81	3.0	-3.7	-2.2
	Proportion of trained labor (+)	%	23.8	41.7	44.6	48.1	49.7
	Unemployment rate (-)	%	4.30	3.10	3.90	8.06	1.98
	Informal employment rate (-)	%	55.6	48.9	54.1	50.8	49.3
	Ratio of budget expenditure to GRDP (-)	%	33.3	33.7	40.3	47.8	20.7

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	Urban land use efficiency (GRDP/km ²) (+)	Billion VND/km ²	142.5	35.7	84.8	84.1	104.5
Social welfare	Per capita income (+)	(Thousand VND/person /month)	3372.5	4441	6057	5230	6224
	Gini coefficient (-)	Coefficient (0-1)	0.400	0.344	0.334	0.329	0.350
	Multidimensional poverty rate (-)	%	19.0	1.5	0.69	0.38	0.90
	Proportion of households with permanent housing (+)	%	47.5	46.0	39.0	54.0	58.0
	Under-five mortality rate (-)	‰	24.2	13.2	12.6	12.4	12.1
	Number of doctors per 10,000 population (+)	10,000 people	9.5	15.2	17.5	20.4	19.4
	Average years of schooling (+)	Years	6.7	10.6	11.3	11.7	12.1
	Residents' assessment of basic infrastructure (+)	Coefficient (0.25-2.5)	1.3	2.36	2.35	2.31	2.25
Environment and Security	Annual average PM2.5 concentration (-)	µg/m ³	26.1	17.1	18.8	14.1	20.0
	Proportion of households using clean water sources (+)	%	47.5	98.6	99.0	99.4	100
	Forest cover rate (+)	%	34.2	42.4	47.0	47.2	44.8
	Residents' assessment of neighborhood security and public order (+)	Coefficient (0.25-2.5)	1.3	1.63	1.53	2.01	1.94
	Rate of prosecution of suspects (-)	Per 100,000 population	294.5	112.3	121.7	125.4	201.0
	Mortality rate due to traffic accidents (-)	Per 100,000 population	16.2	9.2	4.8	4.5	8.9
Governance capacity	Provincial Competitiveness Index (PCI) (+)	Coefficient (1-100)	48.0	68.3	70.2	70.42	68.79
	Provincial Governance and Public Administration	Coefficient (10-80)	42.8	36.69	44.98	42.54	42.67

	Performance Index (PAPI) (+)						
	Transparency and public disclosure in policy formulation (+)	Coefficient (1-10)	5.2	5.48	5.48	5.06	4.96
	Grassroots-level citizen engagement (+)	Coefficient (1-10)	5.2	5.07	4.77	4.06	4.93
	Citizens' evaluation of public administrative services (+)	Coefficient (1-10)	5.2	7.18	7.5	7.33	7.24
	Government accountability to the people (+)	Coefficient (1-10)	5.2	5.85	4.78	4.27	4.34
	Effective control of corruption in the public sector (+)	Coefficient (1-10)	5.2	5.58	6.62	6.78	6.63

Source: Author's synthesis and calculation

2.1.2. Methodology for developing the composite index of economic growth quality

The study normalizes each indicator's data and computes the composite index using the Full Permutation Polygon Synthetic Indicator (FPPSI) approach [25]. The use of the FPPSI method allows for the consideration of all possible permutations of the indicators, providing a more comprehensive evaluation of the balance and interaction among them. This ensures that no relationships between the indicators are overlooked, leading to more accurate synthesis results. This approach highlights the concept that an integrated system is not merely the arithmetic mean of its components. Moreover, the FPPSI method eliminates the need to assign weights to each indicator, as all indicators are treated as equally important. The FPPSI method uses polygons to represent different indicators and calculate the composite index based on the full permutation of irregular central polygons. Each indicator in the set of n indicators is represented by a side of an n -sided polygon. The upper limit of each indicator corresponds to the radius from the center to the vertex of a regular central polygon (with n sides). The greatest values of the indicators are represented by this polygon. The actual values of the indicators are connected to form an irregular central polygon, where the vertices of this polygon represent the respective values of each indicator. The vertices of this irregular central polygon are a full permutation of the n indicators from start to end. This indicates that every potential configuration of the indicators is taken into account in order to create various polygons. Given that the indicators can be arranged in various ways. Thus, the n indicators can form a total number of possible irregular central polygons is $(n-1)!/2$. The function transforms the indicator value x , that is, the edge length of the polygon, into a normalized form based on the boundary values and the threshold of the indicator x [26], [27]:

$$F(x) = \frac{(U - L)(x - T)}{(U + L - 2T)x + UT + LT - 2UL}, x \in [L, U]$$

This function satisfies the conditions: $F(L) = -1$, where L is the lower limit of indicator x ; $F(T) = 0$, where T is the threshold of indicator x ; $F(U) = 1$, where U is the upper limit of indicator x . For indicator i -th, the normalized value S_i on the scale $[-1, +1]$ is represented by the formula:

$$S_i = \frac{(Max_i - Min_i)(X_i - T_i)}{(Max_i + Min_i - 2T_i)X_i + Max_iT_i + Min_iT_i - 2Max_iMin_i}$$

In this context, S_i is the normalized value; X_i is the real value; Max_i is the maximum; Min_i is the minimum; and T_i is the threshold value of indicator i -th, which can be interpreted as a standard, or an average value. Notably, for positive indicators (e.g., proportion of trained labor), higher values positively impact the quality of growth, whereas lower values negatively impact it. Conversely, for negative indicators (e.g., proportion of households using clean water sources), lower values positively influence the quality of growth, while higher values negatively impact it. The normalized values of each indicator range between $[-1, +1]$, $S_i = -1$ when $X_i = Min_i$; $S_i = 0$ when $X_i = T_i$; and $S_i = 1$ when $X_i = Max_i$. The composite index is calculated using the formula [26], [27]:

$$S = \frac{\sum_{i \neq k}^{i,k} (S_i + 1)(S_k + 1)}{2n(n - 1)}$$

Where S represents the value of the composite index, S_i and S_k are the normalized values of indicator i and k , and n is the number of component indicators. The final result is that the composite index S lies within the range $[0, 1]$, with higher values indicating better performance. The value of the composite index is categorized into a four-level classification system based on the value of S , as shown in Table 2 [25].

Table 2. Classification criterion for the level of economic growth quality

Level	Value	Qualitative evaluation
I	0.75 – 1.00	Very good
II	0.50 – < 0.75	Good
III	0.25 – < 0.50	Moderate
IV	0.00 - < 0.25	Poor

2.2. Research results and discussion

2.2.1. Assessing economic efficiency in Da Nang’s economic growth quality

In this research, economic efficiency is reflected through the effective use of production input factors (such as capital, labor, and total factor productivity), the ability to create jobs, the quality of labor and employment in the economy, and the total output produced per unit of land area. The composite index reflecting Da Nang City’s economic efficiency during the 2015–2023 period reveals significant fluctuations, shaped by both internal structural reform efforts and the external shock of the COVID-19 pandemic. In 2015 and 2019, the index reached 0.253 and 0.261, respectively, placing the city within level III, or moderate efficiency, according to the classification framework. However, by 2021, at the height of the pandemic, the index dropped sharply to 0.096, indicating a decline to level IV (poor efficiency). This downturn highlights a widespread deterioration across productivity, capital efficiency, and total factor productivity (TFP) growth. Although there was a partial recovery in 2023, with the index rising to 0.236, it remained below the threshold of 0.25, thus still classified as level IV (poor) (Figure 5).

During the 2015–2023 period, several indicators contributed positively to Da Nang City’s economic efficiency. Notably, average labor productivity increased steadily from 141.1 to 212 million VND per worker per year, while the proportion of trained labor reached nearly 50% by 2023 (with a normalized score of 0.99). The unemployment rate declined significantly in the post-pandemic phase, dropping from 3.96% in 2021 to 1.98% in 2023. Additionally, improvements in the efficiency of public expenditure relative to GRDP and urban land use efficiency signaled progress in fiscal discipline and spatial economic performance (Figure 1).

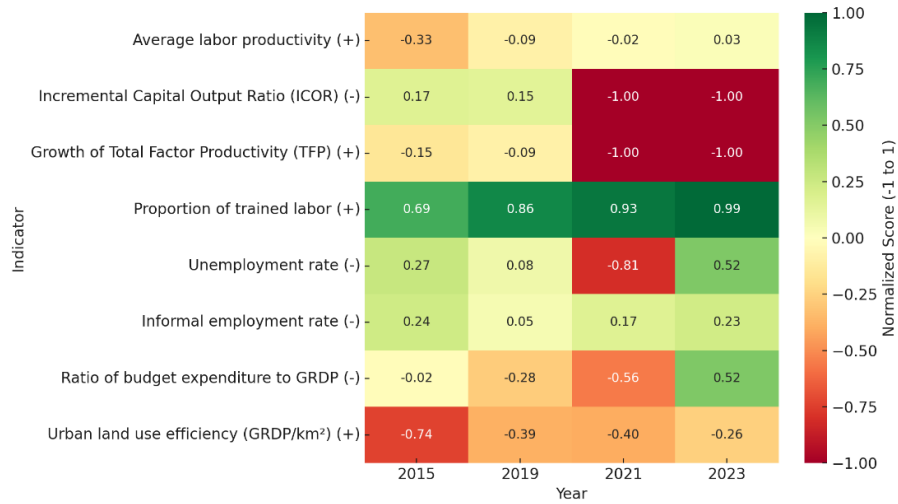


Figure 1. Heatmap of normalized economic efficiency indicators in Da Nang (2015–2023)

Conversely, several indicators exerted a negative influence on the composite index. The ICOR ratio surged during the pandemic and, despite some correction, remained elevated in 2023, suggesting persistent inefficiencies in capital utilization. This high ICOR can be attributed to the dominance of extensive growth strategies, delays in public investment disbursement, and a lack of effective capital allocation mechanisms, especially in infrastructure and industrial upgrading. Total Factor Productivity (TFP) growth was negative in both 2021 and 2023, reflecting limited technological adoption, weak linkages between research institutions and businesses, and low private sector investment in innovation. Furthermore, the informal employment rate remained high, exceeding 49%, highlighting structural vulnerabilities in the local labor market and posing challenges to sustainable economic development. These results suggest that while the city has made notable strides in post-pandemic labor recovery and human capital enhancement, fundamental constraints, particularly in capital utilization, technological innovation, and production organization, continue to hinder the realization of sustainable and high-quality economic growth in the medium to long term (Figure 1).

2.2.2. Assessing social welfare in Da Nang's economic growth quality

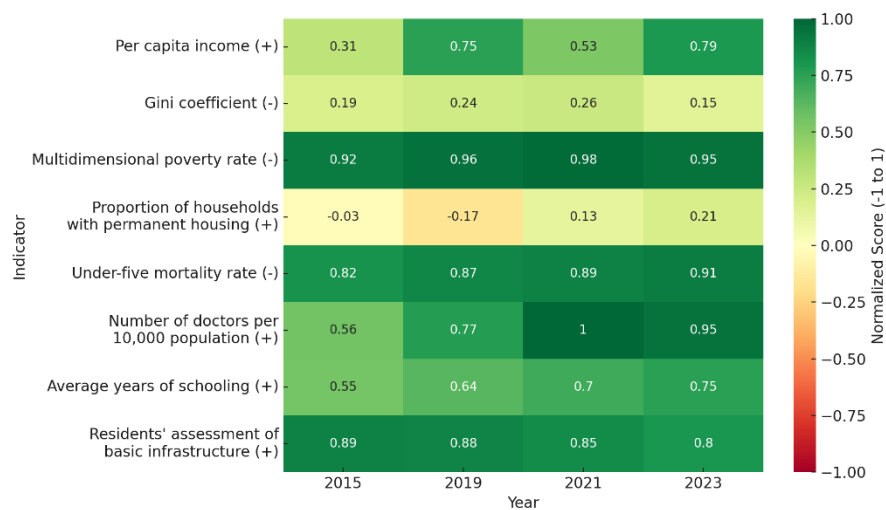


Figure. 2. Heatmap of normalized social welfare indicators in Da Nang (2015–2023)

The composite index reflecting the quality of economic growth in terms of social welfare in Da Nang City consistently remained at level II – good during 2015-2023, according to the classification framework. Specifically, the index steadily increased from 0.577 in 2015 to 0.710 in 2023, indicating continuous and sustainable improvements in the domain of social well-being. Notably, even during the height of the COVID-19 pandemic in 2021, the index reached 0.691, reflecting the resilience of the city's social policy framework and its prioritization of welfare programs amid the crisis (Figure 5). These results suggest that Da Nang has not only emphasized economic expansion but has also maintained a strong focus on quality of life and inclusive development, thereby progressively enhancing social security and overall citizen satisfaction.

A number of indicators improved Da Nang City's total social welfare index. Per capita income showed a steady upward trend, reaching a normalized score of 0.79 by 2023. The multidimensional poverty rate remained exceptionally low throughout the period, with normalized values consistently ranging from 0.92 to 0.98. Significant improvements were also observed in healthcare and education access, as reflected in the increasing number of doctors per 10,000 people, the declining under-five mortality rate, and the rising average years of schooling. Notably, the proportion of households with permanent housing increased from 46% in 2015 to 58% in 2023, with its normalized score improving from -0.03 to 0.21. On the other hand, a few indicators exerted a negative influence on the composite index. The Gini coefficient rose slightly to 0.35 in 2023, causing its normalized score to decline to 0.15, an indication of growing income inequality. Particularly noteworthy is the decline in residents' assessment of basic infrastructure, which fell from 2.36 to 2.25 during the period. This led to a drop in the normalized score from 0.89 to 0.80, suggesting a gradual decrease in public satisfaction with infrastructure quality, especially in peri-urban and low-income areas where access to public services and utilities remains limited (Figure 2). These findings underscore the need for more inclusive social policies. Priorities should include enhancing access to quality healthcare and education for marginalized communities, expanding affordable housing programs, and improving infrastructure in underserved neighborhoods.

2.2.3. Assessing environment and security in Da Nang's economic growth quality

Between 2015 and 2021, the composite index reflecting the quality of growth in environment and security in Da Nang City remained consistently at level II – good, with normalized scores ranging from 0.56 to 0.68. This indicates relatively effective efforts in pollution control, resource management, and urban security maintenance amid the city's rapid urbanization. However, by 2023, the index declined to 0.55 (Figure 5). This downturn may reflect growing pressures from population expansion, increasing urban environmental degradation, or emerging social security challenges in the post-pandemic context. The result highlights the need for timely policy adjustments and enhanced investment in environmental and security-related sectors to sustain the quality of economic growth in the coming years.

The dynamics underlying this trend can be seen by closely examining the component indicators. On the positive side, the proportion of households using clean water steadily improved, reaching 100% in 2023 and achieving the maximum normalized score of 1.00. Residents' assessment of neighborhood security and public order also improved, with the evaluation reaching 1.94 (normalized at 0.55) by 2023. In addition, the mortality rate due to traffic accidents declined and remained relatively low (ranging from 4.5 to 8.9 per 100,000 population), resulting in consistently high normalized scores between 0.47 and 0.76.

Conversely, several indicators exhibited declining trends that weighed down the composite score. The annual average PM_{2.5} concentration, after improvements in earlier years, rose again to 20 µg/m³ in 2023, lowering its normalized value to 0.28. This reversal may be attributed to multiple compounding factors, including the rebound of economic and construction activities

post-pandemic, the increasing number of private vehicles, and limited enforcement of emission standards for industrial and transport sectors.

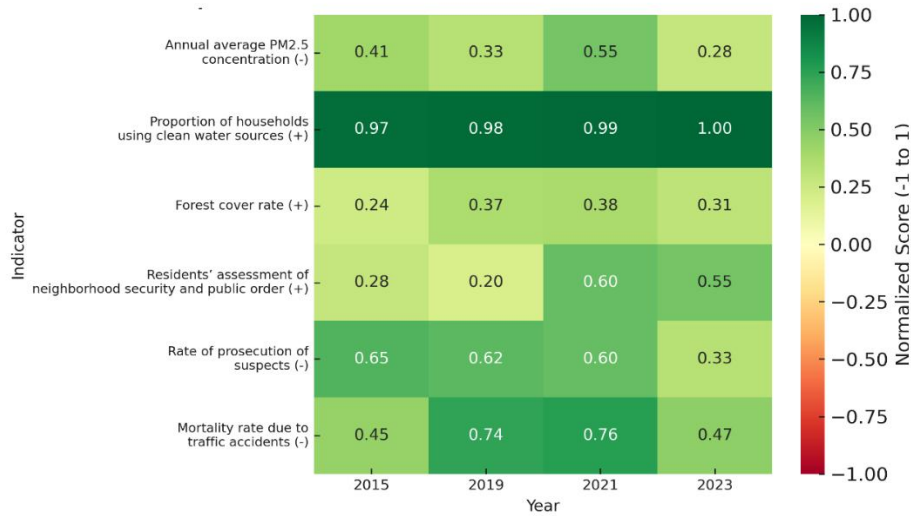


Figure 3. Heatmap of normalized environment and security indicators in Da Nang (2015–2023)

In addition, the accelerated pace of urban expansion, with growing land use conversion and rising energy consumption, has likely intensified particulate pollution, especially in densely populated districts. The normalized score for forest cover rate, while modestly improved from 0.24 in 2015 to 0.31 in 2023, remained low throughout the period, highlighting the need for stronger afforestation and ecosystem protection efforts. The limited improvement in this indicator may be explained by continued deforestation pressures driven by infrastructure development, tourism expansion into forested areas, and inadequate reforestation efforts. Furthermore, the prosecution rate of suspects increased sharply, from 125.4 to 201 per 100,000 population between 2021 and 2023, indicating possible growth in social disorder or crime, and causing its normalized score to drop to 0.33. These negative developments help explain the overall decline in the composite index for 2023, despite the persistence of a number of strong-performing indicators (Figure 3).

2.2.4. Assessing governance capacity in Da Nang's economic growth quality

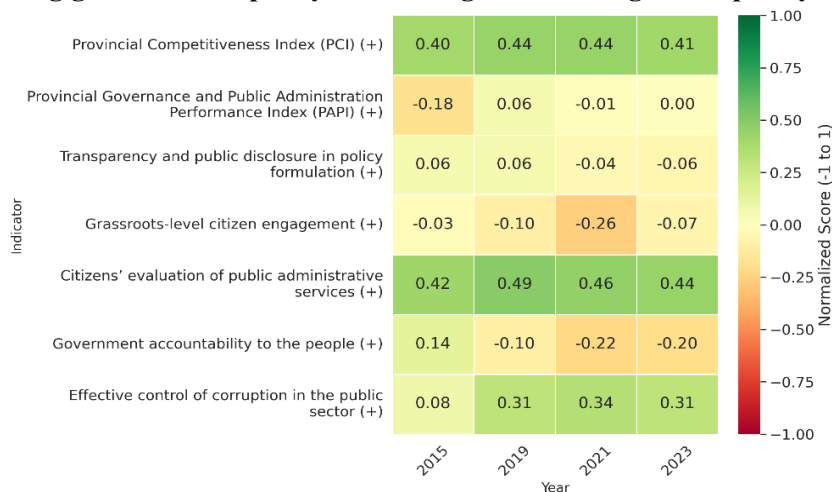


Figure 4. Heatmap of normalized governance capacity indicators in Da Nang (2015–2023)

From 2015 to 2023, Da Nang City's governance capacity index remained consistently within level III – moderate, with values ranging narrowly between 0.30 and 0.34 (Figure 5). This indicates a relatively stable institutional and administrative foundation over time, yet also reflects limited improvement in governance performance. Despite ongoing administrative reforms and digitalization efforts, the city’s governance indicators have not demonstrated sufficient advancement to transition into the good category. The stagnation suggests a need for more effective institutional innovations, enhanced public service delivery, and strengthened transparency and accountability mechanisms to support higher-quality and more sustainable economic growth in the coming years.

A closer examination of the component indicators reveals a combination of modest progress and areas of regression. On the positive side, the Provincial Competitiveness Index (PCI) showed stable and relatively high performance, with normalized scores consistently around 0.40–0.44. Likewise, citizens’ evaluation of public administrative services remained a strength, maintaining high ratings (normalized scores between 0.42 and 0.46), which indicates sustained satisfaction with core government service delivery. Additionally, the index for effective control of corruption in the public sector improved gradually, with its normalized value increasing from 0.08 in 2015 to 0.31 in 2023, reflecting incremental progress in anti-corruption efforts. Conversely, several indicators demonstrated declining trends and acted as constraints on governance quality. The Provincial Governance and Public Administration Performance Index (PAPI), a broad measure of administrative effectiveness and citizen feedback, showed stagnation, with its normalized score hovering around zero by 2023. More notably, scores for transparency and public disclosure in policy formulation, grassroots-level citizen engagement, and government accountability to the people all deteriorated over time. By 2023, their normalized values had declined to -0.06, -0.07, and -0.20, respectively, pointing to weakened openness, reduced civic participation, and declining public oversight. One possible explanation lies in the limited inclusiveness of administrative reform processes, which have primarily focused on digital transformation and procedural streamlining but paid insufficient attention to strengthening deliberative and participatory mechanisms. While online platforms for public services have expanded, opportunities for meaningful citizen input in policy design, budgeting, or project monitoring remain restricted or underutilized. These patterns indicate that while the city has maintained functional service delivery, deeper reforms are needed to reinforce participatory governance, institutional trust, and policy responsiveness (Figure 4).

2.2.5. A comprehensive assessment of the quality of economic growth in Da Nang

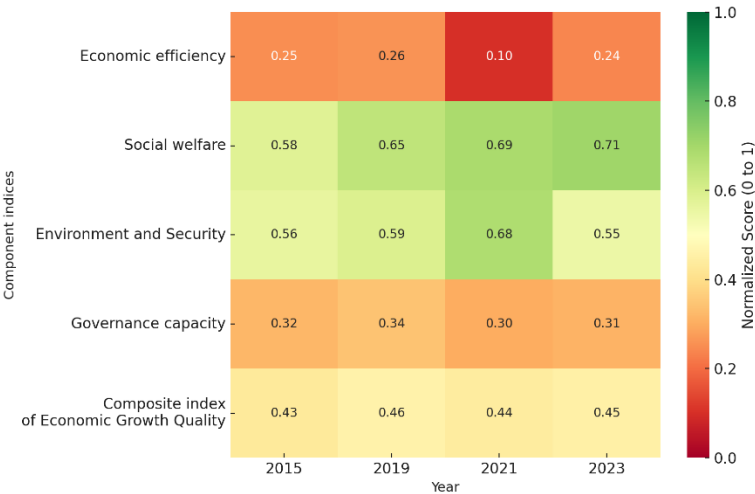


Figure 5. Heatmap of composite index of economic growth quality in Da Nang (2015 - 2023)

Figure 5 illustrates the composite index and component indices of economic growth quality in Da Nang during 2015–2023. The composite index remained relatively stable, ranging from 0.43 to 0.45 throughout the period, reflecting a moderate level of growth quality without significant structural breakthroughs. The overall consistency suggests that while Da Nang has ensured steady development, the city has yet to achieve marked progress in enhancing the quality of its growth.

Despite progress in several individual dimensions, Da Nang's composite index of economic growth quality showed only limited overall improvement from 2015 to 2023. This lack of strong upward movement underscores a fundamental imbalance across development pillars and points to intrinsic limitations in the current growth model. While the social welfare dimension achieved substantial gains, rising from 0.58 to 0.71 and reaching the upper bound of the good level, this improvement was not sufficient to drive a commensurate increase in the composite index. Similarly, the environment and security dimension initially maintained relatively strong scores but experienced a notable decline to 0.55 in 2023, offsetting some of the welfare gains. More importantly, the two remaining dimensions - economic efficiency and governance capacity - persistently underperformed and exerted downward pressure on the aggregate measure. Economic efficiency, in particular, remained fragile, recovering only modestly post-pandemic. The index fell sharply to 0.10 in 2021 amid the pandemic-induced economic downturn and only modestly recovered to 0.24 in 2023. While governance capacity stagnated with no significant breakthroughs over nearly a decade with scores ranging from 0.30 to 0.34.

This multidimensional imbalance reveals structural weaknesses in Da Nang's development trajectory. The city appears to have prioritized social service delivery and infrastructure investment, areas that produce visible short-term outcomes, while underinvesting in the deeper institutional and economic reforms required for sustainable and high-productivity growth. Capital utilization remains inefficient, innovation lags, and informal employment persists, suggesting that the underlying economic base has not fundamentally transformed. Concurrently, the limited progress in transparency, civic engagement, and accountability reflects governance inertia and a lack of effective mechanisms to mobilize citizen participation or ensure responsive public management. These patterns suggest that Da Nang's development model has reached a plateau under its current configuration. Without deliberate efforts to rebalance its approach, shifting from an input-driven, administratively centered model toward one that fosters dynamic productivity, participatory governance, and long-term ecological resilience, the city risks being trapped in a "low-efficiency, high-equity" equilibrium. Future improvements in the composite index will require not only targeted interventions in lagging dimensions but also a holistic rethinking of policy priorities to reduce inter-dimensional trade-offs and unlock synergies across sectors.

3. Conclusions

Economic growth serves as a critical material foundation that enables nations, particularly developing countries, to overcome poverty, address socio-economic limitations, and gradually move toward wealth and prosperity. However, in the context of globalization and increasingly complex challenges, the goal of nations is no longer limited to mere quantitative economic growth but must also emphasize quality and sustainability. This study contributes to the growing body of literature on the quality of economic growth by developing a multidimensional and composite index-based framework, applied to Da Nang City during the period 2015–2023. Unlike previous studies that often relied on isolated indicators, the research constructed a composite index across four key dimensions - economic efficiency, social welfare, environment and security, and governance capacity - using the FPPSI method to ensure objective and comparable assessment over time. The findings show that while Da Nang has achieved substantial progress in social welfare and, to a lesser extent in environmental sustainability, persistent weaknesses in economic

efficiency and stagnation in governance performance have limited the overall improvement in growth quality, which remained at a moderate level. This imbalance reflects structural constraints of the current development model and highlights the need for a strategic shift toward more inclusive, efficient, and accountable growth pathways. The study also acknowledges limitations in indicator coverage and causal analysis, suggesting opportunities for future research to incorporate comparative assessments, explore underlying determinants, and apply more granular, spatially disaggregated data. Strengthening governance, enhancing productivity, and promoting institutional trust will be critical to fostering sustainable and high-quality economic growth in Da Nang and similar urban contexts.

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