



Structural Transformation in Asia-Pacific Least Developed Countries: Are They Different?

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Abstract

This study examines structural transformation in Asia-Pacific Least Developed Countries (AP LDCs) to assess whether their experiences differ from global economies. Using cross-country panel data, the findings reveal that AP LDCs exhibit slower agricultural transformation and lower urbanisation rates compared to global averages. While manufacturing shares are comparable globally, AP LDCs face significant challenges in achieving economic complexity, reflecting limited diversification and sophistication in export portfolios. These trends raise questions about the adequacy of current LDC graduation metrics in capturing structural transformation.

I. Introduction

Achieving sustainable and long-term economic development remains a fundamental goal for developing countries including the Least Developed Countries (LDCs), with structural transformation serving as a cornerstone of this endeavour. The 11 Asia-Pacific LDCs (AP LDCs) have made significant socioeconomic progress over recent decades despite the structural disadvantages inherent in their development processes (Razzaque & Tateno, 2021). Many of these nations are transitioning rapidly out of the LDC category, necessitating an assessment of whether such graduation is accompanied by sufficient structural transformation.

The concept and measurement of structural transformation are complex, with various indicators providing different perspectives. While Lewis's (1954) framework—emphasising the shift from low labour-productivity agriculture to high labour-productivity industrial activities—has been widely adopted, alternative approaches also exist in

the literature. Notably, the experience of structural change is not uniform across countries. This study employs an empirical framework using cross-country panel data to explore whether AP LDCs experience structural transformation differently compared to other global economies, including the broader group of developing countries.

II. Data and Methodology

Drawing from empirical literature and prioritising data availability across a broad sample of countries, this study utilises the following three widely recognised measures of structural transformation:

1. Sectoral GDP shares (agriculture and manufacturing),
2. Urbanisation (percentage of the population residing in urban areas), and

3. Economic Complexity Index (ECI), which reflects the diversity and sophistication of a country's export basket.

The decline in agriculture's GDP share and a corresponding rise in manufacturing are hallmark indicators of economic development. Urbanisation, a socio-demographic factor, is historically linked to higher growth in per capita income and social changes (Kelbore, 2014). The inclusion of ECI captures the degree of economic sophistication, as the production of complex and diverse products often accompanies systemic economic transformation.

The baseline model incorporates country fundamentals such as land area (proxy for country size), per capita GDP, population, arable land, age dependency ratios, and geographical characteristics

(landlockedness and islandness). Additionally, policy and institutional variables—including governance indicators (rule of law, control of corruption, government effectiveness), foreign direct investment (FDI), and tertiary education—serve as controls to assess the robustness of the findings.

The analysis applies a panel random effect estimation model to a dataset comprising 192 countries, with a subset of 133 developing nations. Significant variations emerge between AP LDCs and other regions, particularly in urbanisation rates and ECI values as can be seen in Table 1 and Table 2 below.

Table 1 | Descriptive statistics for global context excluding AP LDCs

Variables	Mean/ Std. Dev.
Agriculture	13.861 (12.783)
Manufacture	12.980 (6.984)
Urbanisation	53.988 (23.677)
ECI	0.048 (0.981)

Table 2 | Descriptive statistics for AP LDCs

Variables	Mean/ Std. Dev.
Agriculture	29.011 (11.995)
Manufacture	8.993 (6.137)
Urbanisation	25.059 (11.782)
ECI	-1.186 (0.257)

III. Research Results

Are Asia-Pacific LDCs Different from Global Economies?

Regression results (Table 3) reveal that the AP LDCs exhibit a significantly higher agricultural GDP share than the global average, as indicated by the positive coefficient for the AP LDC dummy. For example, while Bangladesh and Lao PDR show lower agricultural GDP shares, countries such as Myanmar, Nepal, Afghanistan, and the Solomon Islands display an average share of 23.76 per cent—substantially higher than the global average of 4.33 per cent in 2020. This trend highlights a slower pace of structural transformation in the region. Conversely, manufacturing value added shows no significant difference between AP LDCs and global economies. This is consistent with the substantial contribution of Bangladesh, Myanmar, and Cambodia to global apparel exports.

Urbanisation rates, however, are considerably lower in AP LDCs, with significant negative coefficients. This phenomenon, often described as 'over-urbanisation,' is characterised by growing urban populations coupled with rising poverty and unemployment. For instance, the urbanisation rate in Nepal, Afghanistan, and Cambodia averages 24.16 per cent, compared to the global average of 56.48 per cent in 2021.

The ECI results underscore AP LDCs' limited productive capacity, reflected in their inability to produce and export complex products. With negative ECI values, these countries remain undiversified despite some specialising in manufacturing and services. This lack of diversity hampers systemic transformation. The findings remain consistent even after introducing policy and institutional variables, reinforcing the robustness of the conclusions.

Table 3 | Role of country fundamentals on structural transformation (global context)

	Agriculture	Manufacture	Urbanisation	ECI
Log of land area	0.687***	-0.680***	-5.118***	-0.265***
Arable land (hectares per person)	2.821***	-1.361*	-0.626	0.420***
Log of population	-1.000***	2.218***	9.051***	0.411***
Age dependency (old)	-0.076**	-0.017	0.202***	0.027***
Age dependency (young)	-0.018**	-0.054***	-0.093***	-0.007***
Log of per capita GDP	-34.988***	10.377***	9.815***	-0.241**
Log of square of per capita GDP	1.707***	-0.634***	-0.420***	0.028***
Landlock dummy (equals 1 for landlock countries, 0 otherwise)	-1.523	2.155***	-6.399***	0.326***
Island dummy (equals 1 for Island countries, 0 otherwise)	0.074	-0.187	6.305***	-0.292***
AP LDC dummy (equals 1 for AP LDCs, 0 otherwise)	6.640***	-2.379	-24.293***	-0.765***
Constant	197.574	-48.406	-79.879	-3.429
R-square (overall)	0.734	0.308	0.273	0.729
Total countries	192	192	192	192
Observations	6,934	6,334	7,679	3,492
Time dummies	Yes	Yes	Yes	Yes

Note: Statistical significance at the 1%, 5%, and 10% levels are indicated by ***, **, and *, respectively.

Are Asia-Pacific LDCs Different from Developing Countries?

When comparing AP LDCs to the broader group of developing nations (Table 3), no significant differences emerge in terms of agricultural or manufacturing GDP shares. This suggests that structural transformation patterns are not uniquely regional but shared across developing economies.

However, urbanisation and ECI remain key areas of divergence. Most developing nations exhibit higher urbanisation rates, while AP LDCs lag significantly. Similarly, AP LDCs score lower on the ECI, reflecting their struggle to diversify export portfolios—a challenge less pronounced in other developing economies.

IV. Conclusion

The findings indicate that structural transformation in AP LDCs presents a mixed picture. While these nations share similarities with other developing economies in terms of agricultural

and manufacturing GDP shares, they diverge significantly in urbanisation rates and economic complexity.

Crucially, the indicators used to determine LDC graduation eligibility—per capita income, Human Asset Index (HAI) and Economic and Environmental Vulnerability (EV)—may not fully capture structural transformation processes. For

instance, ECI—a more modern metric—highlights the inability of AP LDCs to diversify their economic base. This limitation, if unaddressed, could inhibit their development and transformation trajectories.

To gain a comprehensive understanding of structural transformation, future research should explore alternative and advanced metrics, ensuring a holistic assessment of these nations' progress relative to global benchmarks. Also, it is important to ascertain if graduation out of LDC status without having sufficient structural transformation can lead to a sustained development process.

References

- Arthur, L. W. (1954). Economic Development with Unlimited Supplies of Labor. *Manchester School of Economic and Social Studies*, 22(2), 139–191. doi:<https://doi.org/10.1111/j.1467-9957.1954.tb00021.x>
- Kelbore, Z. G. (2014). Multidimensional structural transformation index: a new measure of development. *MPRA Paper No. 62920*. Retrieved from: https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Kelbore%2C+Z.+G.+%282014%29.+M+ultidimensional+structural+transformation+index%3A+a+new+measure+of+development.+MPRA+P+aper+No.+62920.&btnG=
- Razzaque, M. A., & Tateno, Y. (2021). Asia-Pacific least developed countries: a review of implementation of the Istanbul Programme of Action and way forward. *ESCAP working paper series No. ESCAP/WP/10*.

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