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Prospects of Least Developed Countries meeting the graduation criteria by 2030

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Prospects of Least Developed Countries meeting the graduation criteria by 2030

Namsuk Kim¹

Abstract

The progress made for enabling LDCs to move toward graduation has not been successful enough. Fourteen countries have been able to meet the criteria for graduation during 2011-2020, only half way to meet the target specified in the IPoA: a half of LDCs meeting the graduation criteria by 2020. Without boosting the development progress of LDCs, the possibility of achieving Sustainable Development Goals of the Agenda 2030 in all countries, leaving no one behind, will be very limited. The present paper investigates the trend based on diverse scenarios, to shed light on the possible graduation cases by 2030, and implications on how much effort is needed to accelerate the development progress of LDCs. Based on the statistical information on the historical trend, only 20-24 LDC (44-53% of the total) may meet graduation thresholds by 2030, approaching the IPoA target set for 2020. Optimistic hypothetical scenarios predict that 27-36 LDCs (60-80% of the total) may meet the graduation criteria by 2030. To achieve the optimistic scenarios, however, an unprecedented pace of progress in all LDC criteria are required – income growth needs to be at least 7 per cent for all LDCs, or the progress needs to be accelerated two or three times faster than long term trends. Only in such optimistic scenarios, a substantive share of LDCs will be able to meet the graduation criteria by 2030.

1. Introduction

Least Developed Countries (LDCs) are a group of countries that are identified by the United Nations as countries that have severe challenges in achieving sustainable development. The category was created in 1971, allowing these countries access to special support measures from the international community, such as trade preferences, technical assistance and aid. The list of countries to be included in the category is reviewed every three years, using a set of criteria (United Nations, 2015a).

Since the establishment of the category, the number of LDCs has increased from 25 in 1971 to 47 in 2018.² During the time period, only five countries, namely, Botswana, Cabo Verde, Equatorial Guinea, Maldives, and Samoa have been able to make sufficient progress and to graduate from the category. Recognizing this lack of progress at the bottom of the world's development, the Programme of Action for the LDCs for the Decade 2011-2020 (IPoA) was adopted by the UN Member States in 2011, to support LDCs to overcome the structural challenges in eradicating poverty and achieving internationally agreed development goals (A/CONF.219/3/Rev.1). It specifically aims to enable half of the LDCs to meet the criteria for graduation by 2020.

The progress made for enabling LDCs to move toward graduation has not been successful enough. When the IPoA was adopted in May 2011, there were 49 LDCs.³ Since then, two countries (Equatorial Guinea, and Samoa) graduated, and two countries (Angola and Vanuatu) became eligible for graduation and are scheduled to

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² See the latest list of LDCs and the historical changes of the category at cdp.un.org

³ Botswana graduated in 1994, Cabo Verde in 2007, and Maldives graduated and became a non-LDC in January 2011.

graduate.⁴ Before 2020, 10 additional LDCs have met the graduation thresholds – Bangladesh, Bhutan, Kiribati, Lao PDR, Myanmar, Nepal, Timor-Leste, Tuvalu, Sao Tome and Principe, and Solomon Islands (UN 2018). In total, only 14 countries have met the criteria for graduation during 2011-2020, half way to meet the target specified in the IPoA.

The next decadal programme of action for LDCs, should there be one, is expected to formulate the action agenda until 2030, which has the same end line as the 2030 Agenda for Sustainable Development. The 2030 Agenda's universal and integrated set of goals and targets address the root causes of poverty and the need for development that works for everyone, a priority for the LDCs (UN, 2015c). Without boosting the development progress of LDCs, the possibility of achieving Sustainable Development Goals (SDGs) in all countries, leaving no one behind, will be very limited.

In this context, it is an important task to identify the trajectory of LDCs for possible graduation eligibility in the future. The present paper investigates the trend based on diverse methods and scenarios, to shed light on the possible graduation cases by 2030, and implications on how much effort is needed to accelerate the development progress of LDCs. The present paper only uses the statistical information on the LDC criteria. It does not take into account country specific factors or global and regional development situations, such as trade and financial market trends, commodity prices, and so on. Incorporating such factors would be beyond the scope of the present paper, but can be considered for future research.

Section 2 presents an overview of the graduation criteria and the data. Section 3 reports the results from the statistical exercises on prospects by 2030, and section 4 summarizes.

2. Criteria and graduation eligibility

2.1. Criteria, method and data

For identification for inclusion/graduation of LDCs, three criteria are used – GNI per capita, the Human Assets Index (HAI), and the Economic Vulnerability Index (EVI).⁵ The threshold for inclusion/graduation for each criterion is determined at the triennial review of the LDC category. An LDC meets the graduation criteria, if it meets two of the three criteria, or its income level is above twice of the graduation threshold (income-only rule). And the country is eligible for graduation when it meets the graduation criteria in two consecutive triennial reviews.

The projected number of LDCs that may meet the graduation thresholds heavily depends on the estimation methods and assumptions. UNCTAD (2016) used the income trajectory based on IMF's GDP forecast, and logarithmic trend of the HAI and EVI, and suggested 13 projected graduation cases between 2021 and 2024. Additional to the very likely or on-going seven cases (Bhutan, Kiribati, Nepal, Sao Tome and Principe, Solomon Islands, Timor-Leste, and Tuvalu), six countries, namely, Afghanistan, Bangladesh, Djibouti, Lao PDR, Myanmar and Yemen, are projected to graduate by 2024.

⁴ Vanuatu is scheduled to graduate in 2020 (A/RES/70/78), and Angola in 2021 (A/RES/70/253).

⁵ For the definition and details on the sub-indicators of HAI and EVI, see UN (2015a).

Drabo and Guillaumont (2016) considered more closely the possible graduation cases based on the income-only criteria. Assuming the per capita income growth rate is sustained at the same rate in 2001-2014, 14 countries (Angola, Bhutan, Cambodia, Equatorial Guinea, Kiribati, Lao PDR, Myanmar, Zambia, Sao Tome and Principe, Solomon Islands, Sudan, Timor-Leste, Tuvalu, and Vanuatu) were projected meet the income-only criteria between 2018 and 2030. If the average growth rate is one percentage point higher, or increased to 7 per cent per year, 17-24 LDCs may meet the income-only criteria between 2018 and 2030.

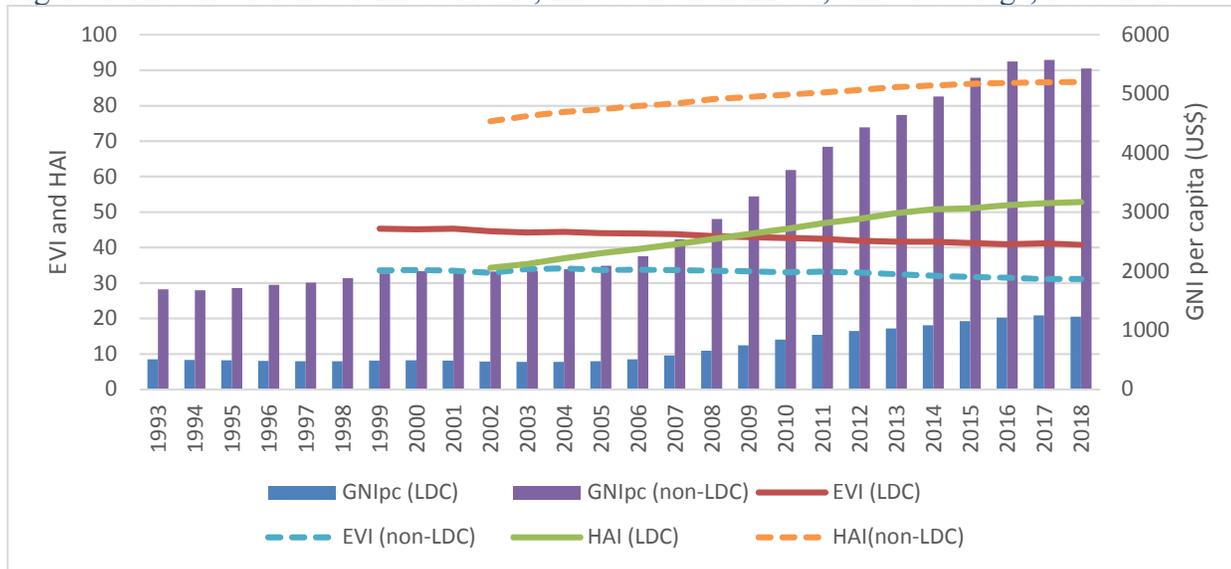
Similarly, Kawamura (2014) average annual growth rates of real GNI per capita observed during the period 2000–2010. The graduation threshold and possible future values of the HAI and EVI were projected based on past values and gaps, because until 2014, the HAI and EVI thresholds were determined not absolutely, but relatively from reference country groups. The result suggested that 11 countries (Angola, Bhutan, Cambodia, Kiribati, Lao PDR, Lesotho, Myanmar, Nepal, São Tomé and Príncipe, Solomon Islands, and Timor-Leste) may become eligible for graduation by 2021.

Above mentioned papers use the official Triennial Review data to forecast future graduation eligibility. Triennial Review data are only available for every three years, and not directly compatible across time, as the composition, methodology and data sources of the LDC criteria change over time.

The present paper uses the annual data that uses the same composition, methodology and data sources to keep the consistency over time. The data is an unbalanced panel data, covering all LDCs from 1976 to 2018. The present paper excludes five graduates (Botswana, Cabo Verde, Equatorial Guinea, Maldives and Samoa), and two graduating countries (Angola and Vanuatu) from the analysis, and thus the total number of LDCs in the sample is 45. Data is available from 1976 for the GNI per capita, 2002 for the HAI, and 1999 for the EVI, depending on the countries. Since many LDCs had almost no growth in income for a long period time in the 1970s and 80s, and therefore, the sample is restricted to 1993-2018. Figure 1 illustrates the historical trend of LDC criteria, the average of LDCs and non-LDC developing countries from 1993 to 2018.⁶ Based on the annual data, various estimation methods are used to predict the future changes in the LDC criteria (see section 3).

⁶ For most LDCs, data on the GNI per capita are available from 1976, EVI from 1999 and HAI from 1993. EVI and HAI are composite indexes, for which some of the sub-indicators are not available prior to those years.

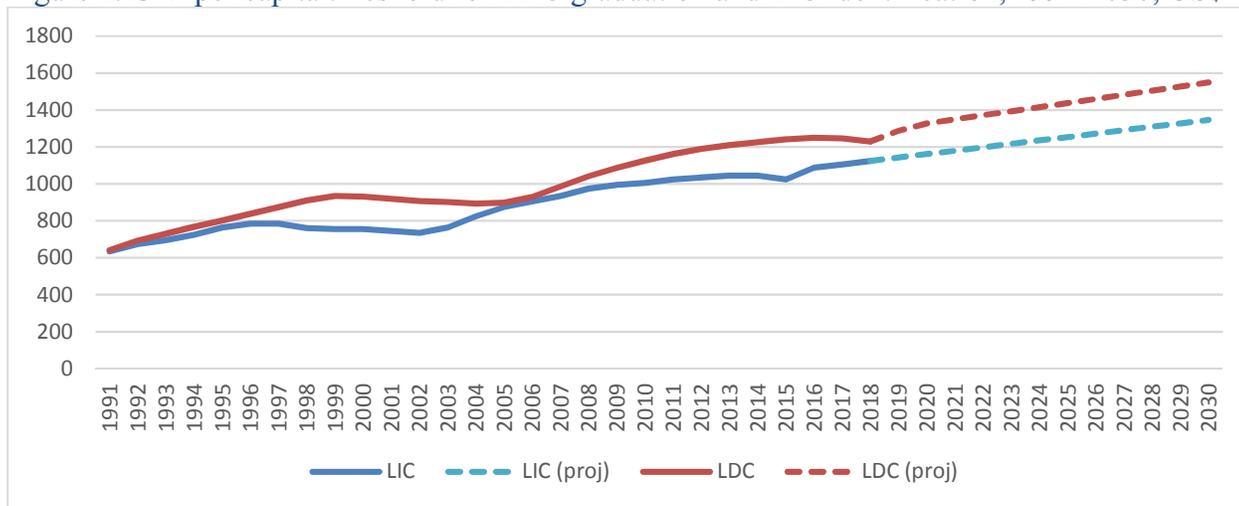
Figure 1. Historical trend of LDC criteria, LDCs and non-LDCs, annual average, 1993-2018



2.2. Graduation thresholds

The graduation threshold for income is set as 20 per cent higher than a three-year moving average of the low income country (LIC) thresholds used by the World Bank. As the LIC thresholds are revised over time, the graduation threshold also changes. For a short term projection (e.g. 3 years), using the threshold used in the latest Triennial Review (e.g., \$1,230 for the 2018 Triennial Review) for the projection of LDCs surpassing the threshold in the future might be practically acceptable. But the present paper aims to project for a longer term till 2030, and thus the income threshold would need to be also projected based on the historical trend. Figure 2 describes the projected thresholds over time based on a simple linear time trend, and the income thresholds for LDC graduation are \$1,349 for 2021, \$1,416 for 2024, \$1,483 for 2027, and \$1,549 for 2030.

Figure 2. GNI per capita threshold for LDC graduation and LIC identification, 1991-2030, US\$



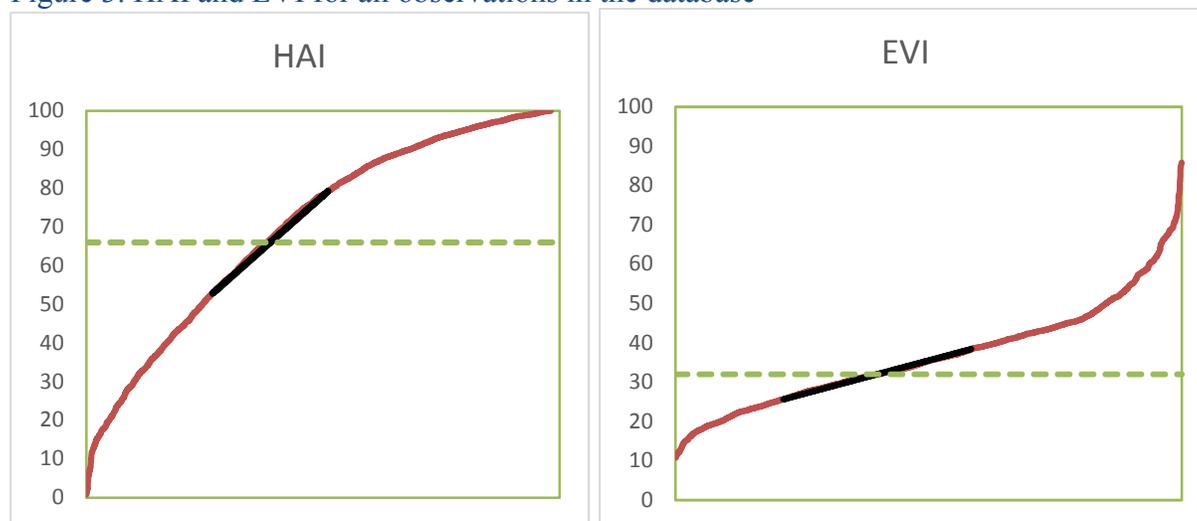
Source:

Calculated based on World Bank country classification database, accessed on 10 February, 2018.

<https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

The thresholds for the HAI and the EVI are fixed at 66 (or above) and 32 (or below), respectively, and therefore, there is no need of projecting the thresholds. EVI and HAI are composite indexes, consisting of many sub-indicators, and projecting the sub-indicators one by one is rather a challenging task. It is notable that the EVI and HAI, as a whole, tend to change slowly over time, because they consist of many sub-indicators that do not change quickly. When the EVI and the HAI change only little by little over the years, changes in many LDCs follow a straight line which can be approximated locally by a linear trend, or a simple average growth rate. Figure 3 illustrates that the changes of HAI and EVI from 80 percent to 120 percent of the level of graduation thresholds overlaps the straight lines almost perfectly.

Figure 3. HAI and EVI for all observations in the database



Note: Black line represents a straight line from 80% to 120% of the graduation threshold. Dotted line represents the graduation threshold of 66 for HAI and 32 for EVI.

3. Graduation prospects

The present paper examines different scenarios to obtain various results. Table 1 summarizes the numbers of LDCs that are expected to meet the graduation criteria.

Table 1. Projected number of LDCs meeting graduation criteria by 2030

Country	Scenario 1: Average annual growth rate	Scenario 2: Compound annual growth rate	Scenario 3: Linear time trend	Scenario 4: 7% minimum growth	Scenario 5: Accelerated linear time trend (x2)	Scenario 6: Accelerated linear time trend (x3)
Afghanistan	G, H	G, H		G, H		G, H
Bangladesh	G, E, H	G, E, H	G, E, H	G, E, H	G, E, H	G, E, H
Benin	G, E, H	E, H	E, H	G, E, H	E, H	E, H
Bhutan	G, H	G, H	G, H	G, H	G, H	G, H
Cambodia	G, H	G, H	E, H	G, E, H	E, H	E, H
Chad						G, H
Comoros				IO		G, H

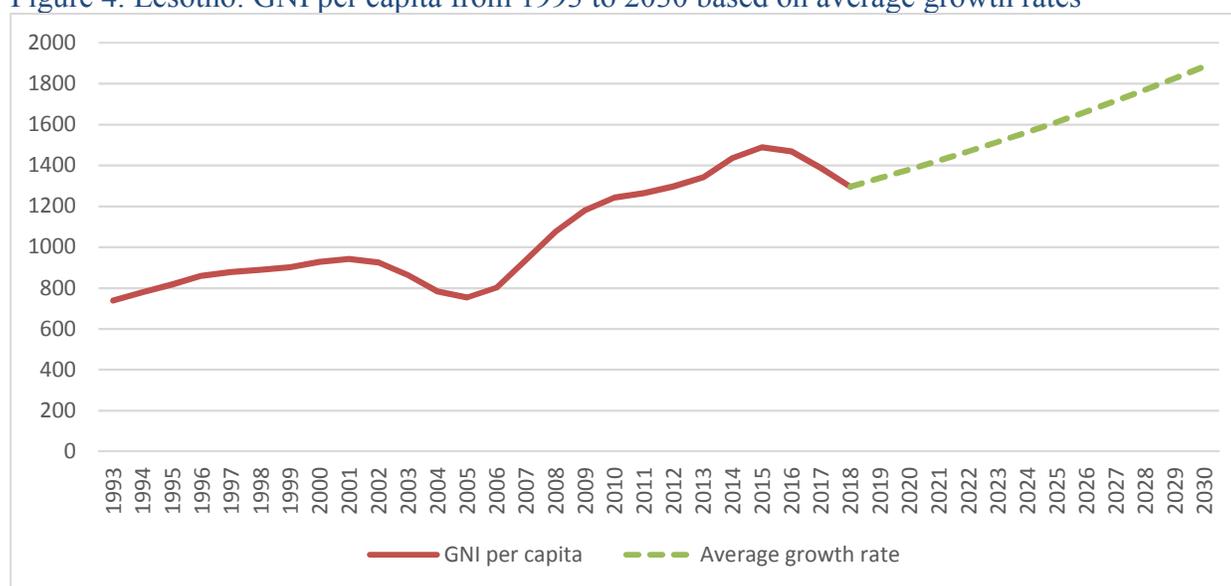
DR Congo					E, H	E, H
Djibouti	G, E, H	G, E, H	G, E, H	IO, E, H	G, E, H	G, E, H
Eritrea	IO	IO		IO		G, H
Ethiopia	G, E	G, E	E, H	G, E	E, H	E, H
Guinea						E, H
Haiti	G, E			G, E		G, E
Kiribati	IO, H	IO, H	IO, H	IO, H	IO, H	IO, H
Lao PDR	G, H	G, H	G, H	G, H	G, H	G, H
Lesotho	G, H		G, H	G, H	G, H	G, H
Liberia						E, H
Mali	G, H			G, H	E, H	G, E, H
Mauritania						G, H
Myanmar	G, E, H	G, E, H	G, E, H	G, E, H	G, E, H	G, E, H
Nepal	E, H	E, H	E, H	E, H	E, H	E, H
Niger					E, H	E, H
Rwanda	E, H	E, H	E, H	E, H	E, H	E, H
Sao Tome and Principe	G, H	G, H	G, H	G, H	G, H	G, H
Senegal			E, H	G, H	E, H	E, H
Solomon Islands	G, H	G, H	G, H	G, H	G, H	G, H
Somalia	E, H			E, H		E, H
South Sudan					IO	IO
Sudan				IO	IO	IO
Timor-Leste	IO, H	IO, H	IO, H	IO, H	IO, H	IO, H
Togo	E, H	E, H	E, H	E, H	E, H	E, H
Tuvalu	IO, H	IO, H	IO, H	IO, H	IO, H	IO, H
Uganda					E, H	E, H
United Rep of Tanzania	E, H	G, E, H	E, H	E, H	E, H	E, H
Yemen			G, H	G, H	G, H	G, H
Zambia	IO, H	IO, H	G, H	IO	G, H	G, H
Number of countries meeting criteria	24	20	21	28	27	36

Note: Criteria met for graduation for the first time: G- GNI per capita; E- EVI; H- HAI; IO-Income only. The current number of LDCs is 47 (as of June 2018), and the total number of LDCs in the analysis is 45, excluding two graduating countries - Angola and Vanuatu. Income graduation threshold is projected based on historical thresholds of low middle country by the World Bank.

3.1. Scenario 1: Average annual growth rate

In this baseline scenario, countries make progress between 2019 and 2030 at simple average annual growth rates (AAGRs) in the past 10 years, 2009-2018. This is a method frequently used in the above-mentioned existing research on prospects of LDC graduation. All three criteria, GNI per capita, EVI and HAI, are estimated based on this method. Figure 4 illustrates how the progress in the per capita income is projected for Lesotho, as an example.

Figure 4. Lesotho: GNI per capita from 1993 to 2030 based on average growth rates



Assuming that the progress made in the past ten years will continue until 2030 in all three criteria, the total of 24 LDCs may meet graduation thresholds (see Table 1). Many of them (10 out of 24) will meet the thresholds for GNI per capita and HAI. Five countries will satisfy the income-only rule (four among them will also meet HAI criterion), four countries will meet all three criteria, and five LDCs will meet EVI and HAI criteria. Sustained growth in the GNI per capita until 2030 appears to be the deciding factor to achieve this result.

3.2. Scenario 2: Compound annual growth rate

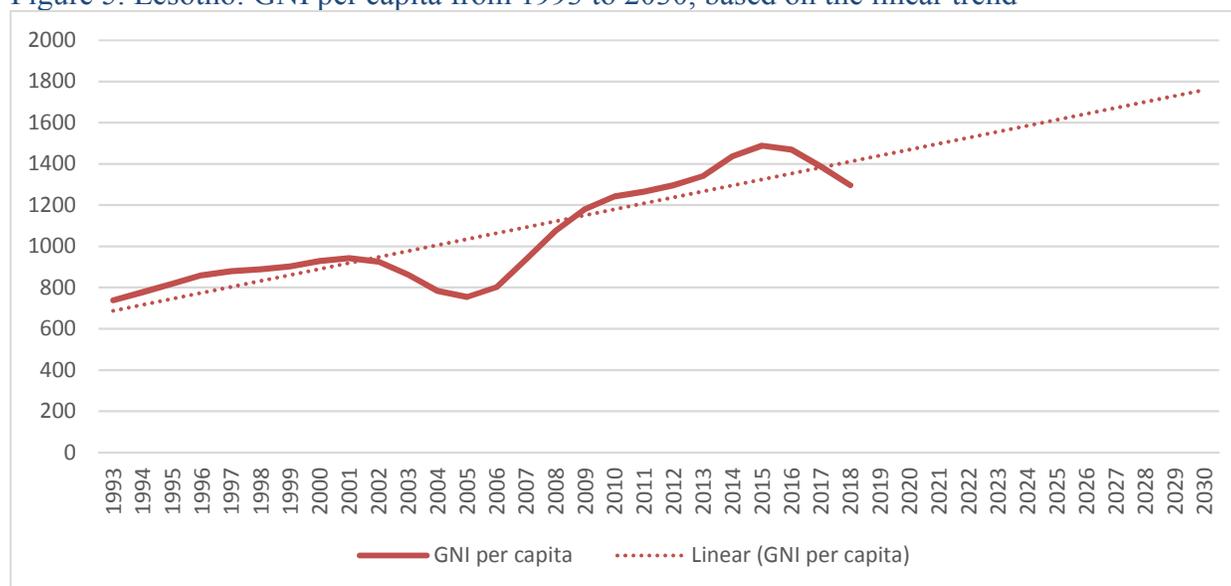
Instead of the AAGRs, compound annual growth rates (CAGRs) for 2009-2018 can be used to project the path. Although AAGR is a common measure used in this type of analyses as mentioned above, the CAGR could be a better measure of growth over time for some cases. For instance, consider Year 1 and Year 2 of the GNI per capita of a country. In Year 1, a natural disaster hit the country and the GNI per capita fell from \$1,000 to \$750 for a growth rate of -25 per cent. In Year 2, the income per capita recovered back to \$1,000, a 33 per cent of growth. Averaging the Year 1 and Year 2 over two years results in an AAGR of 4 per cent, but it doesn't accurately reflect what has happened. The income per capita started with \$1,000 and ended with \$1,000, which is a growth of zero per cent, by the CAGR. The AAGR ignores the effects of compounding and it can overestimate the growth for some cases. The CAGR, on the other hand, is a geometric average that represents the consistent rate at which the income would have grown if the growth had compounded at the same rate each year (Anson and others, 2010).

Using the CAGR for all three criteria, the total of 20 LDCs may meet graduation thresholds by 2030 (see Table 1). The income growth is almost the same, or lower for some LDCs when we use the CAGRs, comparing to the cases where we use the AAGRs.

3.3. Scenario 3: Linear time trend

In this scenario, countries follow the long term historical trend in all LDC criteria until 2030. A simple time variable, instead of the time dummies, is used for estimating the linear time trend, and for the parsimony of the model. Figure 5 illustrates how the linear trend is applied for predicting the income growth in Lesotho, as an example.

Figure 5. Lesotho: GNI per capita from 1993 to 2030, based on the linear trend



Based on the linear trend, 21 LDCs may meet the graduation criteria at least once by 2030 (see Table 1). The graduation criteria met by the countries are diverse, but in general the EVI and the HAI play a larger role comparing to Scenario 1: Eight countries may meet the EVI and the HAI criteria; seven countries meet the income and HAI criteria; three countries satisfies the income-only rule (and HAI); and three countries meet all three criteria. The result implies that, if the long term historical trend continues, the target specified in IPoA on the number of LDCs meeting the graduation threshold by 2020 might be still not reached by 2030.

3.4. Scenario 4: Minimum income growth rate

SDG target 8.1 is to sustain per capita economic growth in accordance with national circumstances, and in particular at least 7 per cent per annum GDP growth in the LDCs.⁷ Just for an exercise, Scenario 1 is adjusted to have a minimum of 7 per cent growth for GNI per capita for all LDCs. In that case, comparing to Scenario 1, four additional countries meet the criteria, with 28 LDCs meeting the graduation criteria by 2030.

3.4. Scenario 5: Accelerated linear time trend (x2)

This scenario assumes the countries make faster progress in 2019-2030, hypothetically. When all criteria improve twice as fast as historical linear trends, the total number of LDCs meeting the graduation criteria by 2030 would

⁷ <https://sustainabledevelopment.un.org/sdg8>

increase to 27 (see Table 1). 12 countries will meet EVI and HAI criteria; seven countries meet income and HAI criteria; five countries meet the income-only criteria (three of them also meet HAI); three countries meet all criteria.

3.5. Scenario 6: Accelerated linear time trend (x3)

Scenario 6 suggests a case where all LDCs achieve rapid improvement in all criteria in 2019-2030, three times faster than historical trends. In this highly optimistic scenario, as many as 36 countries can meet the graduation criteria by 2030 (see Table 1). 14 countries meet income and EVI criteria; 12 countries meet income and HAI criteria; five countries satisfy the income only rule (three of them also meet HAI criterion); four countries meet all criteria; one country meets income and EVI criteria.

4. Summary

The results presented in Table 1 suggest two prospects:

1. Business as usual: Scenarios 1 (AAGR), 2 (CAGR), and 3 (linear trend) predict that 20-24 LDCs, about a half of the current total, may meet the graduation criteria by 2030.
2. Accelerated progress: Scenarios 4 (minimum growth of 7 per cent), 5 (two times faster than the historical trend) and 6 (three times faster than the historical trend) suggest that 27-36 LDCs, 60-80% of the total, may meet the graduation criteria by 2030.

To achieve the optimistic result, therefore, an unprecedented pace of growth in the per capita income and human assets, and a reduction in the economic and environmental vulnerability in many LDCs is required. The statistical analysis suggests that LDCs need to have a minimum of 7 per cent income growth, or to accelerate their progress two or three times faster than long term trends. Only in such cases, a substantive share of LDCs will be able to meet the graduation criteria by 2030.

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