



Committee for Development Policy

United Nations Department of Economic and Social Affairs
Development Policy and Analysis Division

Handbook on the Least Developed Country Category: Inclusion, Graduation and Special Support Measures

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Addendum (July 2013)

The criteria used to designate countries as least developed may be periodically reviewed and fine tuned by the Committee of Development Policy in order to reflect recent insights by economic theory and advances in data availability.

Updated information on the criteria and related methodology will be posted at http://www.un.org/en/development/desa/policy/cdp/ldc_ldc_info.shtml as it becomes available.

Data sources and definitions are available at:

http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_definitions.shtml

The text in the following pages replaces the text in the publication, Handbook on the Least Developed Country Category.

- Update on the LDC members of the WTO page 20 of the Handbook
- Update on the Economic vulnerability index page 48-54 of the Handbook
- Update on the LDC category timeline..... page 11 of the Handbook

The table below replaces the Table II.1 Least developed country members of the World Trade Organization, pp. 20 of the *Handbook on the Least Developed Country Category: Inclusion, Graduation and Special Support Measures* (United Nations publication, Sales No. E.07.II.A.9).

Table II.1
Least developed country members of the World Trade Organization^a

Angola	Gambia	Nepal
Bangladesh	Guinea	Niger
Benin	Guinea Bissau	Rwanda
Burkina Faso	Haiti	Samoa
Burundi	Lao People's Democratic Republic	Senegal
Cambodia	Lesotho	Sierra Leone
Central African Republic	Madagascar	Solomon Islands
Chad	Malawi	Togo
Democratic Republic of the Congo	Mali	Uganda
Djibouti	Mauritania	United Republic of Tanzania
	Mozambique	Vanuatu
	Myanmar	Zambia

Source: World Trade Organization, "Summary table of ongoing accessions", available from http://www.wto.org/english/thewto_e/acc_e/status_e.htm and "Least developed countries", available from http://www.wto.org/english/thewto_e/whatis_e/tif_e/org7_e.htm.

a The following LDCs are in the process of accession to the WTO: Afghanistan, Bhutan, Comoros, Equatorial Guinea, Ethiopia, Liberia, Sao Tome and Principe, the Sudan and Yemen.

The text below replaces pp. 48-54 of the *Handbook on the Least Developed Country Category: Inclusion, Graduation and Special Support Measures* (United Nations publication, Sales No. E.07.II.A.9).

Economic vulnerability index

In 1999, the Committee recognized that vulnerability should explicitly be taken into account in the criteria used to identify LDCs, owing to the possible negative and long-lasting effects shocks can have on growth and development. Due to the inadequacy of existing indices,¹ it was necessary to construct an EVI in order to express information on the magnitude of countries' economic vulnerability. The Committee also argued that the usefulness of the index would depend upon the reliability of the statistics and the relative simplicity of computations.

The EVI attempts to capture the relative risk posed to a country's development by exogenous shocks. Impact depends on the magnitude and frequency of such shocks, on the structural characteristics of the country concerned—which affect the degree to which it is exposed to such shocks—and the country's capacity to react to shocks (i.e., its resilience).

To an extent, all countries are vulnerable to some specific adverse shocks. Thus, if vulnerability is to be used as an explicit criterion in designating countries as LDCs, there is a need to focus on those sources of vulnerability that (a) accentuate or perpetuate underdevelopment, (b) are not the result of misguided policies but instead are such that they limit policymakers' capacity to respond to shocks, and (c) are beyond a country's control.

Accordingly, the EVI is composed of eight indicators²:

- (a) Population size;
- (b) Remoteness;
- (c) Merchandise export concentration;
- (d) Share of agriculture, forestry and fisheries in gross domestic product (GDP);
- (e) Share of population living in low-elevated coastal zones;
- (f) Instability of exports of goods and services;
- (g) Victims of natural disasters;
- (h) Instability of agricultural production.

The indicators are grouped into two components: an exposure component (measured by the exposure index) and a shock component (measured by the shock index). The EVI is calculated as the simple, unweighted, average of these two indices (see figure III.3).

The exposure index

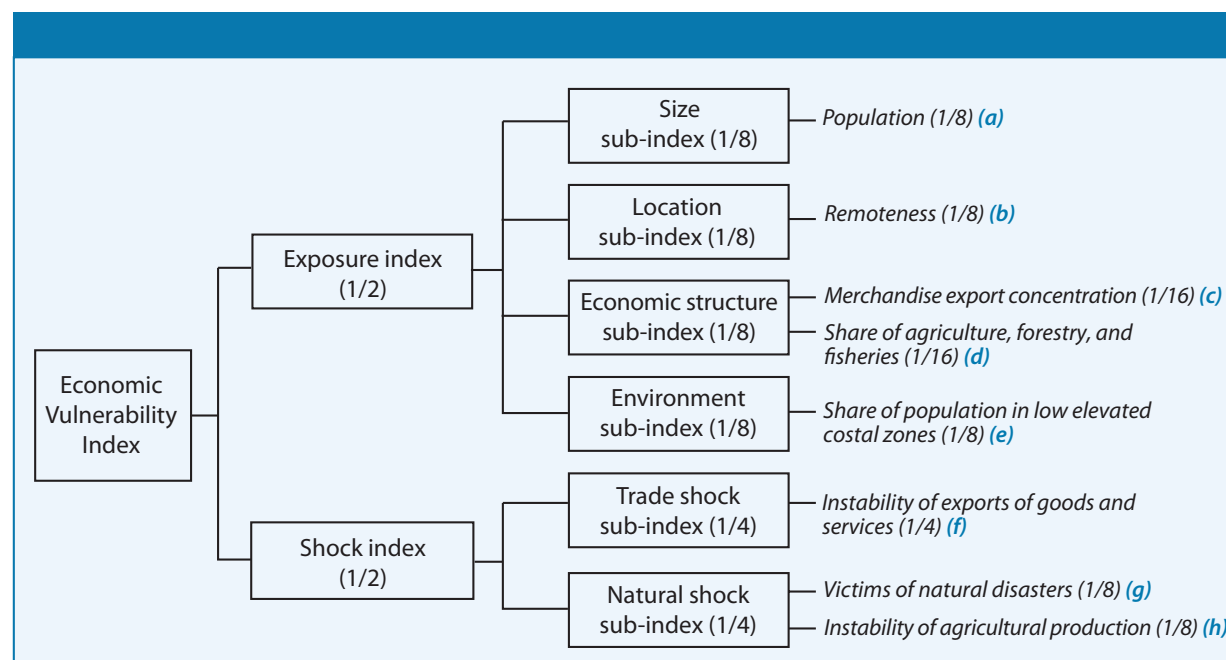
The exposure index is composed of indicators (a) to (d) above.

¹ See report of the Committee for Development Policy on the first session (26-30 April 1999). Official Records of the Economic and Social Council, 1999, Supplement No. 13 (E/1999/33), Annex I.

² See also the report of the Committee for Development Policy on the thirteenth session (21-25 March 2011). Official Records of the Economic and Social Council, 2011, Supplement No. 13 (E/2011/33).

Figure III.3
Composition of the Economic Vulnerability Index (EVI)

Numbers in parenthesis indicate the weight in the overall EVI.



Size sub-index

Population (indicator (a))

Exposure is measured by the size of the country (proxied by the logarithm of the size of its population). Larger countries are often more resilient to shocks and have a more diversified economy owing to the presence of economies of scale supported by a relatively large domestic market. Smaller size is often associated with a persistent lack of structural diversification and dependence on external markets. Additionally, small economies experience higher exposure to natural shocks, and most small, low-income countries are situated in regions that are prone to natural disasters.

Location sub-index

Remoteness (indicator (b))

Location is also a factor that has a bearing on exposure and resilience, as countries situated far from major world markets (and those that are landlocked) face a series of structural handicaps, such as high transportation costs and isolation, which render them less able to respond to shocks in an effective way. Countries isolated from main markets have difficulty in diversifying their economies, even in the current era of globalization and the Internet. Remoteness is a structural obstacle to trade and growth and a possible source of vulnerability when shocks occur. It is also considered one of the main handicaps of many low-income small island developing States (SIDS).

For the purposes of identifying LDCs, remoteness is defined as the trade-weighted average of the distance from world markets. Both exports and imports are taken into account for defining world markets. As physical distance is also a factor in services sectors such as tourism in which many LDCs and other developing countries have a comparative advantage, both merchandise and services trade is included. Rather than

calculating the average distance to all markets, the indicator measures remoteness of individual countries by considering only partner countries that are located relatively close to it. Thereby, the indicator accounts for the potential benefits of a country from easier access to major neighboring markets. Hence, remoteness is measured as the average distance needed to reach a minimum fraction of the world market. Said fraction was established at 50 per cent by the CDP.

To calculate the trade-weighted average distance of a country from world markets, two sets of data are required: (i) the bilateral physical distance between the country and its trading partners, and (ii) the market share of each trading partner in world markets.

First, for each country under consideration the trading partners are sorted by distance. Then, the minimum average distance is calculated as the weighted average of the distance between the country under consideration and those trading partners whose cumulative market share is 50 per cent of the world market, with market shares used as weights.

Once the average minimum distances are calculated, an adjustment coefficient is applied to take into account the particular situation of landlocked countries. These countries, facing higher barriers to trade, often confront relatively higher transport costs for a given distance. Relying on a number of empirical studies of the transport costs to or from landlocked countries, an adjustment coefficient of 15 per cent was chosen and applied to the distance. An index of this distance, transformed into logarithms, is then calculated using the max-min procedure described in box III.2.

The economic structure sub-index

Exposure arising from the particular characteristics of the productive structure of an economy is revealed in the composition of both GDP and exports. The structural index measures the degree of merchandise export concentration and the share of agriculture, forestry and fisheries in the economy. Both components carry an equal weight in the calculation of this sub-index (see figure III.3).

Merchandise export concentration (indicator (c))

Export concentration increases a country's exposure to trade shocks. As currently applied, export concentration excludes services. This is largely due to methodological differences in terms of both data collection and reporting, and in classification that does not allow for goods and services to be merged into a new export concentration index.

The numbers represent Herfindahl-Hirschmann indices derived from applying the following formula to the product categories of the Standard International Trade Classification (SITC) at the three-digit level:³

³ For source and definition, see annex IV.

$$H_j = \frac{\sqrt{\sum_{i=1}^n \left(\frac{x_i}{X_j} \right)^2} - \sqrt{1/n}}{1 - \sqrt{1/n}}$$

where:

j is the country index;

x_i is the value of exports of commodity i ;

$X_j = \sum_{i=1}^n x_i$ is the value of total exports of country j ; and

n is the number of products at the three-digit SITC level.

Share of agriculture, forestry and fisheries in gross domestic product (indicator (d))

Turning to the other component of the structural index, a larger share of agriculture, forestry and fisheries in GDP implies higher exposure to shocks both in relation to terms of trade and to natural disasters. The statistical series used is “agriculture, hunting, forestry and fishing as percentages of GDP” generated from national accounts value added at current prices (in United States dollars). It should be noted here that tourism is another activity that can be adversely affected by natural shocks, but it is not defined in the national accounts as a separate industry or sector.

Share of population living in low elevated coastal zones (indicator (e))

The indicator measures the share of the population in a country that lives in low elevated coastal zones, defined as areas contiguous to the coast below a certain elevation threshold. The indicator has been applied for the first time in the 2012 review. The indicator intends to capture vulnerability to coastal impacts (including sea level rise and storm surges) associated with climate change.

Trade shock index

Instability of exports of goods and services (indicator (f))

For low-income countries, particularly for countries heavily dependent on agricultural exports or the provision of tourism services, instability of export proceeds is a source of vulnerability. This instability largely results from structural factors such as fluctuations in world demand and other reasons not necessarily associated with the domestic policy of the country concerned (such as climatic events or changes in policies of major importing markets).

The trade shock index is measured by an index number series representing the instability of exports of goods and services (in current United States dollars expressed as index numbers), deflated by an index of import unit values. The result approximates a measure commonly referred to as the purchasing power of exports, which is an indicator of the country's capacity to import goods and services from current export earnings.

The instability index is calculated, as above for agricultural instability, by a regression of a trend equation for exports (deflated by import unit values) and using the standard error of the regression as the indicator of instability. The trend equation is expressed as follows:

$$\log X_t = \alpha + \beta \log X_{t-1} + \gamma t + e_t$$

where:

X_t is the value of exports of goods and services deflated by import unit values,

t is the time variable (each year in the sample period),

γ_t is the trend,

and the standard error given by:

$$S = \sqrt{\sum_t e_t^2 / (N - 1)}$$

The shock index

The shock index comprises 50 per cent of the EVI. Two main sources of exogenous shocks are considered: those related to natural or weather-related phenomena, such as earthquakes, volcanic eruptions, droughts or cyclones, and those emanating from the external economic environment—specifically through trade—such as sharp slumps in external demand, terms of trade shocks, etc. Thus, the shock index is constructed as the average of the *natural shock index* and the *trade shock index*.

Financial shocks are not explicitly considered, as most LDCs have only limited access to private capital flows and rely on official development assistance (ODA). These flows are largely dominated by grants or contracted at concessional terms of below-market interest rates and long maturity periods which cushion recipient countries against international interest rate shocks. While ODA flows can be volatile, creating numerous difficulties for recipient countries, increased access to official financing is precisely one of the potential benefits of belonging to the category. A problem of endogeneity would therefore be introduced if eligibility to the LDC status were to be defined by using quantitative indicators related to ODA. Additionally, the CDP does not understand vulnerability to volatility of financial flows to be structural in nature, but rather related to a country's overall economic policies.

The natural shock index

Natural disasters have a negative impact on economic development and are an important source of vulnerability for low-income countries. Countries are affected by a wide range of natural shocks whose nature, frequency and impact vary greatly and are hard to predict. Even if data were readily available and reliable, it would be difficult to meaningfully combine relevant information on a wide variety of natural phenomena into a single index. Alternative proxy measures are therefore used.

The *natural shock index* is defined as the simple average of two components: victims of natural disasters (indicator (f)), and the instability of agricultural production (indicator (g)). Both are presented as index numbers. These two proxy indicators are found to be complementary, reflecting natural shocks in a comprehensive manner.

Victims of natural disasters (indicator (g))

This indicator conveys information on the share of the population that has been a victim of natural disasters. To account for the fluctuations of disasters over time, the indicator is computed using multi-year averages. Victims of natural disasters are defined as people killed or affected (i.e., people requiring immediate food, water, shelter, sanitation or medical assistance). It covers weather and climate-related disasters (such as floods, landslides, storms, droughts and extreme temperatures) as well as geo-physical disasters (such as earthquakes or volcanoes). The indicator reflects vulnerability to natural shocks, in particular the human impact of natural disasters associated with these shocks.

The “victims” indicator replaces the indicator “homelessness caused by natural disasters”, which was used in the 2006 and 2009 reviews and did not cover the impacts of droughts and extreme temperatures.

Instability of agricultural production (indicator (h))

The other component of the natural shock index measures the instability of agricultural production against its trend value. While the trend value reflects factors which may be permanent in nature (such as availability and quality of arable land) as well as economic policies, fluctuation around that trend may capture, among other things, the occurrence of natural shocks and their impact. Of course, this method of estimating trends can give rise to certain problems.⁴

The trend equation estimated for each country is expressed as follows:

$$\log Y_t = \alpha + \beta \log Y_{t-1} + \gamma t + e_t$$

where:

Y_t is the agricultural production index,

t is the time variable (each year in the sample period), and

γ_t is the trend.

The standard error of the regression is used as the measure of agricultural instability for each country and is expressed as:



















$$S = \sqrt{\sum_t e_t^2 / (N - 1)}$$

⁴

For details, see Patrick Guillaumont, Moving Out of the Trap: the Least Developed Countries. Vol.1. Rationale of a Category, op.cit., chapter VI. See also report of the Committee for Development Policy on the second session (3-7 April 2000) Official Records of the Economic and Social Council, 2000, Supplement No. 13 (E/2000/33), annex I.

The figure below replaces the Figure I.2 LDC category timeline, p. 11 of the Handbook on the Least Developed Country Category: Inclusion, Graduation and Special Support Measures (United Nations publication, Sales No. E.07.II.A.9).

Figure I.2
LDC category timeline

2014		<i>Samoa</i>
2012		South Sudan
2011		Maldives
2007		Cape Verde
2003		Timor-Leste
2000		Senegal
1994		Botswana
		Angola, Eritrea
1991		Cambodia, Democratic Republic Of the Congo, Madagascar, Solomon Islands, Zambia
1990		Liberia
1988		Mozambique
1987		Myanmar
1986		Kiribati, Mauritania, Tuvalu
1985		Vanuatu
1982		Djibouti, Equatorial Guinea, Sao Tome and Principe, Sierra Leone, Togo
1977		Cape Verde , Comoros
1975		Bangladesh, Central African Republic, Gambia
1971		Afghanistan, Benin, Bhutan, Botswana , Burkina Faso, Burundi, Chad, Ethiopia, Guinea, Haiti, Lao People's Democratic Republic, Lesotho, Malawi, Maldives, Mali, Nepal, Niger, Rwanda, Samoa, Sikkim, ^a Somalia, Sudan, Uganda, United Republic of Tanzania, Yemen

Source: Report of the Committee for Development Policy, various issues.

Note: Countries in bold have already graduated from the list; those in bold italics are scheduled for graduation.

^a At the time, a protectorate of India.