

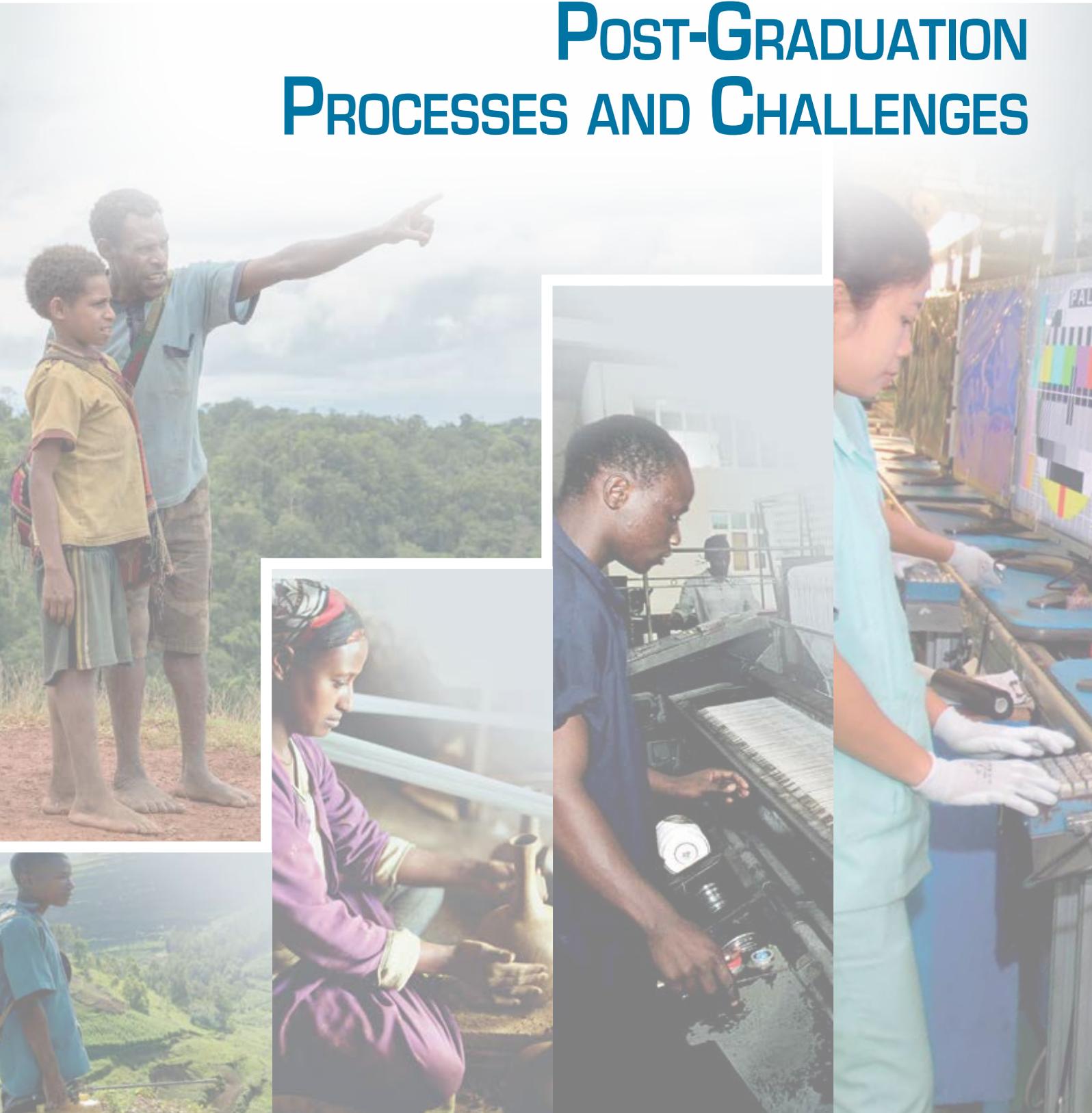


# THE LEAST DEVELOPED COUNTRIES REPORT 2016

*The path to graduation and beyond: Making the most of the process*

## CHAPTER **4**

# POST-GRADUATION PROCESSES AND CHALLENGES



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## A. Introduction

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*The process of development beyond graduation merits attention as well as graduation itself.*

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Since the adoption of the 2011 Programme of Action for the Least Developed Countries for the Decade 2011–2020 (the Istanbul Programme of Action (IPoA)), the feasibility of its graduation target has received considerable attention (Guillaumont and Drabo, 2013; Kawamura, 2014). Much less attention has been devoted to the question of least developed countries' (LDCs) development trajectory beyond graduation, apart from discussion among practitioners of the smooth transition process. This may reflect the focus of the international community on achieving the graduation target itself, or a perception that, once LDCs have graduated, they will be similar to other developing countries (ODCs), and thus face analogous development challenges.

This Report has argued that the process of development beyond graduation merits much greater attention, even during the pre-graduation period — that graduation itself should not be the primary focus of LDCs and their development partners, but should rather be viewed as one milestone in LDCs' longer-term sustainable development. Graduation does not represent a solution to all the graduating country's development challenges; neither does a new set of challenges emerge out of nothing at this point. Rather, the challenges of the post-graduation period are a continuation of those that characterized the pre-graduation period.

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*How LDCs achieve graduation matters for their post-graduation performance.*

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Equally, the development trajectory that leads a country to graduation has critically important implications for the challenges and vulnerabilities it will face after graduation, and the means at its disposal to address them. This highlights the importance of the path dependency of the development process — that is, the considerable role of the past processes that have led a country to its present situation in determining its future course. In planning a national graduation strategy, it is thus imperative to look ahead to the post-graduation period and anticipate the new and continued challenges this will present, while also taking account of the loss of access to LDC-specific support measures as a result of graduation itself.

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*The challenges and vulnerabilities a country will face after graduation depend on the process leading to graduation.*

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This chapter is devoted to the post-graduation period, outlining the key implications of LDC graduation, and outlining the main development challenges LDCs may face in this period. Section B discusses the smooth transition process, providing some examples from the four countries that have already graduated. Section C focuses on the economic implications of LDC graduation, including an analysis of the potential costs of losing LDC-specific preferential access to Group of Twenty (G20) markets.<sup>1</sup> Section D examines some of the main development challenges that graduating countries are likely to face beyond graduation: the persistence of commodity dependence; the risk of reversion to LDC status; and the “middle-income trap”.

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## B. Smooth transition

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The concept of smooth transition embodies the principle that LDC-specific support should be phased out in a gradual and predictable manner following graduation, so as not to disrupt the development progress of the graduating country, pursuant to General Assembly resolutions 59/209, 66/213 and 67/221, among others. The smooth transition period does not have a prescribed length, although the few systematic provisions that have been granted are of three years (CDP and UNDESA, 2015). However, monitoring of development progress by the Committee for Development Policy (CDP) is limited to a maximum of nine

years beyond graduation, as is the relevant intergovernmental process (figure 4.1). While smooth transition arrangements are of importance to all graduating countries, they are particularly critical in the case of island LDCs, due to their greater openness to international trade, reliance on external aid and exposure to exogenous shocks, as discussed in chapter 2 of this Report.

Notwithstanding various General Assembly resolutions calling for effective smooth transition measures, the evidence is mixed. While many trading partners have adopted a policy of extending their LDC-specific trade preferences to graduating countries for a transition period, in line with General Assembly resolution 59/209, this is not universal.<sup>2</sup> Moreover, with the notable exception of access to the Enhanced Integrated Framework (EIF), there is a lack of formal procedures for smooth transition in relation to the special and differential treatment (SDT) provisions accorded to LDCs at the World Trade Organization (WTO). There is also little clarity regarding smooth transition procedures for other international support measures (ISMs), such as bilateral and multilateral official development assistance (ODA) allocations, aid modalities, and technical assistance.

As well as arguably discouraging LDC governments from seeking graduation in the past, this lack of clarity has been an obstacle to graduating countries' preparation of smooth transition strategies during the three-year period preceding their effective graduation, as mandated by General Assembly resolution 59/209. In the absence of a systematic approach to smooth transition, the ability of a graduating country to retain access to ISMs for a transition period is heavily dependent on its ability to mobilize technical, financial and political support from its trade and development partners, bilaterally and multilaterally. As well as a thorough understanding of the availability and relevance of LDC-specific ISMs, this requires proactive engagement by the government with its partners and strong negotiating capacities (box 4.1).

Overall, while the impacts of graduation should not be exaggerated, this assessment confirms that "further work needs to be done on smooth transition in order to provide assurances to LDCs that the international community will ensure that the continued development progress is a shared objective, and that assistance to the country will not be withdrawn in a manner inconsistent with that objective" (CDP, 2012:12). The importance of addressing this issue effectively is all the greater in the context of the IPoA graduation target, whose fulfilment would imply a much greater number of graduation cases than in the past.

*ISMs are phased out gradually after graduation under a "smooth transition" process.*

*There is a lack of formal procedures and clarity regarding smooth transition for most ISMs...*

*...so that maintaining access to ISMs depends on the graduating country's negotiating capacities.*

**Figure 4.1. Smooth transition procedures reporting by graduating and graduated countries and the CDP**

Preparation of transition strategy, 3-year period	Graduation	Implementation of transition strategy	
		3-years	Triennially
Transition period report procedures	3 years after General Assembly takes note of CDP recommendation	Post-graduation report procedures	
Graduating country Invited to report annually to CDP on the preparation of the transition strategy	Graduation becomes effective	Graduated country Reports annually to the CDP on the implementation of the smooth transition strategy for 3 years	Graduated country Reports to the CDP as a complement to two triennial reviews on implementation of the smooth transition strategy
CDP Monitors development progress in its annual reports to ECOSOC		CDP Monitors development progress in consultation with graduated country for 3 years and reports results to ECOSOC	CDP Monitors development progress in consultation with graduated country as a complement to two triennial reviews and reports results to ECOSOC

Source: CDP and UNDESA (2015).

### Box 4.1. The smooth transition experience of recent LDC graduates

This box outlines the smooth transition and post-graduation experiences of the three recent LDC graduates, on the basis of country case studies conducted for this Report. Since specific procedures and principles to guide graduating LDCs through the transition from the category were introduced only in 2005 (with General Assembly resolution 59/2092), they were not applicable to the case of Botswana at the time of its graduation.

#### Cabo Verde

Cabo Verde is characterized by heavy dependence on external financing — notably ODA and remittances — and a high level of structural vulnerability. Consequently, concern about the effects of its graduation centred on the potential loss of ODA, which averaged 18 per cent of gross national income (GNI) in the 10 years before its graduation. While ODA has fallen since graduation, it has remained relatively high at 14 per cent of GNI (section E.3).

Cabo Verde's main trade partner is the European Union, from which the Government succeeded in obtaining a three-year extension of its eligibility under the Everything But Arms initiative (currently the standard practice for beneficiaries of the initiative), followed by an additional two-year transition period until 1 January 2012. In late 2013, Cabo Verde became one of the first 10 countries to qualify for the European Union's enhanced Generalized System of Preferences-plus (GSP+) trade regime, which is available to vulnerable countries that have ratified and implemented international conventions relating to human and labour rights, environment and "good governance".

In 2007, Cabo Verde signed a Special Partnership Agreement — a cooperation facilitation framework (unrelated to the Economic Partnership Agreement (EPA) under negotiation in the context of the Economic Community of West African States) covering a broad set of issues, from stability and regional integration to development and poverty reduction. It also concluded a Mobility Agreement with five European Union member States (France, Luxembourg, Netherlands, Portugal and Spain) allowing temporary and circular migration by Cabo Verdeans. Cabo Verde also approached multilateral agencies, including the World Bank and the African Development Bank, to ensure that it retained partial access to concessional financing (though at somewhat greater cost) through classification as a "blend" country. It also benefited from an additional three-year transitional period for access to the EIF, with a further two years subject to approval by the EIF Board.

While growth of the tourism sector provided a means of reducing Cabo Verde's dependence on aid and remittances, it was adversely affected by the global financial and economic crisis and by weak recoveries in key partner countries (notably in the European Union). Partly as a consequence, the country is now at a crossroads, facing challenges to the development of a more sustainable growth model and a more diversified productive base.

#### Maldives

Maldives has continued to experience relatively robust economic performance and significant progress in terms of human capital accumulation since its graduation from the LDC category in 2011. However, it remains heavily dependent on tourism and highly vulnerable to shocks, as indicated by the persistently high level of its economic vulnerability index (EVI).

Like Cabo Verde, Maldives benefited from a three-year extension of trade preferences under the Everything But Arms initiative, until the beginning of 2014. However, it ceased to be eligible for GSP preferences at the beginning of 2014 (as a result of its classification by the World Bank as an upper-middle-income country for three consecutive years), compounding the effect of its loss of preferential treatment. While the country's fishery industry survived the loss of trade preferences in the European Union market and Japan, this has certainly contributed to the sector's declining importance, notably in the case of the tuna industry.

The graduation of Maldives from the LDC category was instrumental in the negotiation of General Assembly resolution 65/286, which extended travel benefits (for example, to attend meetings of the United Nations and WTO) for a period of three years after graduation. The country also retained full access to EIF funds until 2013, and partial funding on a project-by-project basis for an additional two years, until the end of 2015.

While the success of Maldives' smooth transition strategy to date has been somewhat mixed, the latest (2015) CDP monitoring report found no sign of significant reversal in socioeconomic progress since the country's graduation in January 2011.

#### Samoa

Since Samoa graduated only in 2014, the conclusions that can be drawn about the transition process are limited. Like other Cabo Verde and Maldives, Samoa continues to enjoy duty-free quota-free (DFQF) treatment under the Everything But Arms initiative for a period of three years; and a similar transition period has been negotiated, at least for some key products, with other trading partners. China has agreed to extend zero tariff treatment on noni juice and other agro-processing products until 2017, while discussions are under way with Japan on a similar arrangement for noni juice, fish exports and organic products such as honey, vanilla and cocoa.

Samoa also continues to enjoy access to concessional borrowing from multilateral financial institutions, and to receive technical assistance and financial support to attend United Nations meetings. As in other cases, the country has also been granted a three-year transition period by the EIF.

In this context, the international community should consider, in particular:

- Promoting a deeper understanding of the technicalities of LDC graduation and its implications;
- Ensuring that countries continue to receive support appropriate to their respective development situations during the graduation process and in the post-graduation period;
- Defining a systematic and “user-friendly” set of smooth transition procedures applicable to all LDC graduates (notably in relation to international trade, where ISMs appear to be more significant);
- Providing enhanced technical assistance for the preparation of smooth transition strategies.

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*Further work is needed to ensure smooth transition and support commensurate with graduating countries' development needs.*

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## C. Economic implications of graduation

Notwithstanding the smooth transition process, graduation from the LDC category ultimately entails the phasing out of the graduating country's access to LDC-specific ISMs; and this has potentially wide-ranging implications for the economy. Although the graduation process itself lasts at least six years, and smooth transition procedures may extend LDC treatment somewhat longer, these implications need to be taken into account in developing a national graduation strategy, to avoid sudden shocks to the economy. The main purpose of the monitoring process summarized in figure 4.1 is to ensure a thorough assessment of these graduation-related challenges in the specific context of each graduating country.

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*LDCs' graduation strategies need to take account of the phasing out of ISMs after graduation.*

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While this process is, by its nature, context-specific, the present section outlines some more general considerations and potential challenges relating to LDC graduation, from the perspective of “graduation with momentum”. This discussion is divided into three subsections, examining respectively external financing, trade preferences, and SDT provisions in relation to WTO. The last of these subsections focuses on the extended implementation period for LDCs in the WTO Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS Agreement), reflecting the importance of technology in the post-graduation period.

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*The implications of graduation for access to external finance are potentially critical...*

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### 1. EXTERNAL FINANCING

Since the great majority of LDCs run structural current account deficits and are heavily reliant on external finance to support their capital accumulation, the implications of graduation for external financing are potentially critical. Disruptions to access to such financing may result in balance-of-payments problems, which could jeopardize the continuation of the development process that led to graduation.

There is little reason to expect LDC graduation as such to have any direct effect on private capital flows such as foreign direct investment (FDI), remittances and portfolio investment. While a graduating country's ceasing to be an LDC might in principle lead to some improvement in investors' perceptions of its attractiveness as a destination for investment, the major determinants of FDI flows are unlikely to be directly affected by LDC status (as opposed to the development that underlies graduation).<sup>3</sup> Such determinants include, in particular, market size, resource and/or skill endowments, infrastructure, labour costs, tax and regulatory frameworks, and trade and investment agreements (Blonigen, 2005; Blonigen and Piger, 2014; Walsh and Yu, 2010; UNCTAD,

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*...but there is little reason to expect significant direct effects on private capital flows.*

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2012b, 2013). These factors appear to have a differential impact across sectors. As might be expected, natural resource endowments are the main driver of resource-seeking FDI flows, while competitive exchange rates and flexible labour markets appear to attract FDI in manufacturing, and FDI in the tertiary sector appears to be sensitive to independence of the judiciary and the quality of infrastructure (Walsh and Yu, 2010).

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*While graduation could have a greater effect on ODA, LDC status is rarely used to guide aid allocations.*

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Similarly, good macroeconomic performance and a reliable financial sector tend to increase the likelihood that remittances are sent through official channels and are mobilized into diaspora investment (UNCTAD, 2012a); but there is little reason to expect LDC status to have any direct effect.

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*In the case of multilateral donors, eligibility for concessional financing windows is more important and it is not affected by graduation.*

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In principle, graduation could have a more significant effect on access to ODA and other concessional financing, to the extent that donors use the LDC status of recipient countries explicitly as a criterion for aid allocations, as some studies have proposed (Guillaumont, 2008; Guillaumont et al., 2015). However, surveys conducted by the CDP suggest that donors rarely use LDC status to guide their ODA allocations, and that few bilateral donors have established LDC-specific programmes (CDP, 2012). Thus, despite the target of 0.15–0.20 per cent of donor countries' gross national income (GNI) for ODA to LDCs, there is little apparent evidence of an "LDC effect" on aid allocations.<sup>4</sup> Equally, it has long been recognized that aid allocations are affected, not only by recipient countries' needs, but also by donors' perceptions of their institutional quality, and by strategic and political considerations (Alesina and Dollar, 2000; Dollar and Levin, 2006). A recent analysis suggests that recipient countries' needs (represented by income per capita and the physical quality of life index<sup>5</sup>) are relatively weak determinants of ODA receipts, particularly in the case of bilateral aid (Mishra et al., 2012).

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*Eligibility for concessional financing affects the cost of financing rather than the amount.*

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In the case of multilateral donors, a more important issue is that of eligibility criteria for concessional financing windows. As of 2016, all LDCs except Equatorial Guinea (classified by the World Bank as a high-income country) maintained at least partial access to concessional lending both from the World Bank (through the International Development Association (IDA)) and from their respective regional development banks (table 4.1). Four LDCs (Kiribati, Sao Tome and Principe, Tuvalu and Vanuatu) and all three recent graduates (Cabo Verde, Maldives and Samoa)<sup>6</sup> retain IDA eligibility under the "small-island exception",<sup>7</sup> and six LDCs through the World Bank's "blend" category (which combines IDA resources with non-concessional lending to provide a more limited degree of concessionality).

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*The development progress underlying graduation reduces the need for ODA.*

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However, eligibility for concessional financing windows is not generally linked to LDC status as such, but rather to GNI per capita — although the GNI-per-capita threshold used for this purpose by the World Bank and the regional development banks is very close to the LDC graduation threshold.<sup>8</sup> Thus the fact of graduation (as opposed to the increase in income that allows the income criterion to be met) does not have a direct effect on access to concessional finance. Even where access to concessional financing windows is reduced or lost as a result of increasing GNI per capita, access to non-concessional windows is generally maintained, so that the effect is on the cost of multilateral financing rather than its availability.

At the same time, the development progress underlying graduation should, in principle, give rise to a progressive reduction in the need for ODA and other concessional financing during the course of the pre-graduation period. Similar considerations apply to the more specific case of Aid for Trade: LDCs tend to receive more Aid for Trade funding than ODCs relative to GDP, but not in absolute per-capita terms (De Melo and Wagner, 2016). Thus, there seems to be little reason to anticipate a sudden decline in Aid for Trade following graduation,

Table 4.1. LDCs' and LDC graduates' access to concessional windows, selected multilateral development banks, 2016

	International Development Association (IDA)	African Development Fund (AfDF)	Asian Development Fund (AsDF)	Inter-American Development Bank
Afghanistan	IDA only		AsDF only	
Angola	IDA only			
Bangladesh	IDA only		Blend AsDF - ordinary capital resource	
Benin	IDA only	AfDF only		
Bhutan	Blend IDA-IBRD		AsDF only	
Burkina Faso	IDA only	AfDF only		
Burundi	IDA only	AfDF only		
Cambodia	IDA only		AsDF only	
Central African Republic	IDA only	AfDF only		
Chad	IDA only	AfDF only		
Comoros	IDA only	AfDF only		
Democratic Republic of the Congo	IDA only	AfDF only		
Djibouti	Blend IDA-IBRD	AfDF-Gap		
Equatorial Guinea				
Eritrea	IDA only (inactive)	AfDF only		
Ethiopia	IDA only	AfDF only		
Gambia	IDA only	AfDF only		
Guinea	IDA only	AfDF only		
Guinea-Bissau	IDA only	AfDF only		
Haiti	IDA only			Grant resources
Kiribati	Small-island exception		AsDF only	
Lao People's Democratic Republic	Blend IDA-IBRD		AsDF only	
Lesotho	Blend IDA-IBRD	AfDF-Gap		
Liberia	IDA only	AfDF only		
Madagascar	IDA only	AfDF only		
Malawi	IDA only	AfDF only		
Mali	IDA only	AfDF only		
Mauritania	IDA only	AfDF only		
Mozambique	IDA only	AfDF only		
Myanmar	IDA only		AsDF only	
Nepal	IDA only		AsDF only	
Niger	IDA only	AfDF only		
Rwanda	IDA only	AfDF only		
Sao Tome and Principe	Small-island exception	AfDF-Gap		
Senegal	IDA only	AfDF only		
Sierra Leone	IDA only	AfDF only		
Solomon Islands	IDA only		AsDF only	
Somalia	IDA only (inactive)	AfDF only		
South Sudan	IDA only	AfDF only		
Sudan	IDA only (inactive)	AfDF only		
Timor-Leste	Blend IDA-IBRD		Blend AsDF - ordinary capital resource	
Togo	IDA only	AfDF only		
Tuvalu	Small-island exception		AsDF only	
Uganda	IDA only	AfDF only		
United Republic of Tanzania	IDA only	AfDF only		
Vanuatu	Small-island exception		AsDF only	
Yemen	IDA only			
Zambia	Blend IDA-IBRD	Blend		
<i>Botswana</i>				
<i>Cabo Verde</i>	Blend IDA-IBRD and Small-island exception	Graduating to AfDB		
<i>Maldives</i>	Small-island exception		AsDF only	
<i>Samoa</i>	Small-island exception		AsDF only	

Source: UNCTAD secretariat compilation, based on <http://ida.worldbank.org/about/borrowing-countries>; <http://www.afdb.org/en/about-us/corporate-information/african-development-fund-adf/adf-recipient-countries/>; <http://www.adb.org/site/adf/adf-partners>, and <http://www.iadb.org/en/about-us/idb-financing/fund-for-special-operations-fso,6063.html> (accessed July 2016).

especially as the main LDC-specific programme (the EIF) has well-established smooth transition procedures.

*Graduation has a more direct impact on financing for climate change adaptation.*

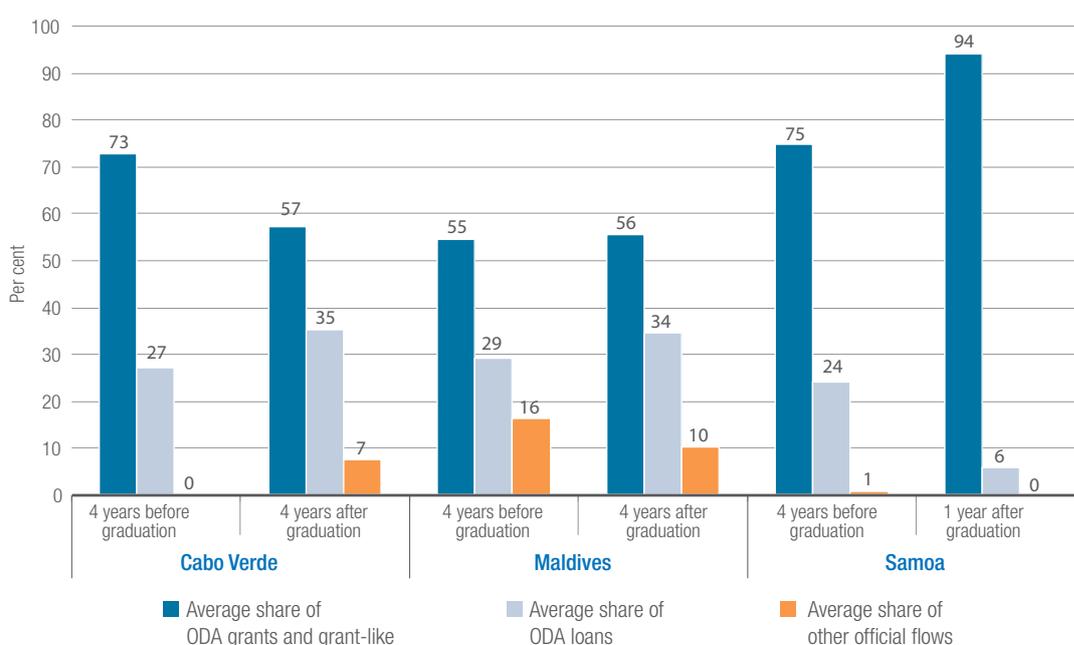
This assessment is broadly supported by the experiences of the three most recent LDC graduates (Cabo Verde, Maldives and Samoa) as shown in figure 4.2.<sup>9</sup> In both Cabo Verde and Maldives, a greater share of total official flows took the form of loans following LDC graduation, indicating some reduction in the degree of concessionality. (While this was not apparent for Samoa, data are available for only one year after graduation.) It is possible, however, that this pattern partly reflects country-specific issues, such as dependence on a small number of donors and/or limited capacity to negotiate favourable smooth transition terms, as well as the impact of the global financial and economic crisis on bilateral ODA budgets. The progressive reduction of the share of grants in official flows following LDC graduation is also consistent with bilateral donors' responses to the survey conducted by the CDP secretariat (CDP, 2012).

*Overall, graduation is unlikely to trigger abrupt changes in access to development finance or private flows.*

Graduation has a more direct impact on financing for climate change adaptation, as graduating countries lose access to LDC-specific funding sources, most notably the LDC Fund. While they retain access to other sources of climate financing, such as the Green Climate Fund, their access to such sources depends on their ability to compete effectively with ODCs – a competition in which they would continue to be hampered even after graduation by their relatively limited institutional and human capacities (UNCTAD, 2009). In principle, 50 per cent of Green Climate Fund financing is to be allocated to particularly vulnerable countries, including small island developing States (SIDS) and African States as well as LDCs. However, graduating Asian LDCs would not benefit from this target, while graduating African countries and SIDS would need to compete with better-resourced ODCs within these categories.

Overall, while graduation may entail some costs in terms of reduced concessionality of official flows and reduced access to climate financing, it is

**Figure 4.2. Composition of total official flows before and after LDC graduation**



Source: UNCTAD secretariat calculations, based on data from the OECD, Creditor Reporting System database (<https://stats.oecd.org/Index.aspx?DataSetCode=CRS1>) (accessed June 2016).

Notes: The periods used to compute the four-year averages are as follows (pre-graduation and post-graduation, respectively): Cabo Verde 2004–2007 and 2008–2011; Maldives 2007–2010 and 2011–2014; and Samoa 2010–2013 and 2014. In the case of Samoa, only one year after graduation is considered because no data are available after 2014. No pre-graduation data are available for Botswana.

unlikely to result in abrupt changes in countries' access to other development finance or to private flows such as FDI. The experiences of the LDC graduates to date also suggest that governments can attenuate graduation costs related to ODA flows significantly by engaging proactively with key development partners at an early stage to negotiate ad-hoc transitional arrangements.

## 2. TRADE PREFERENCES

The most visible trade-related implication of LDC graduation is the loss of preferential market access under LDC-specific schemes such as the European Union's Everything But Arms initiative and of the concessions granted to the LDCs under the Global System of Trade Preferences among developing countries (GSTP).

The impact on a graduating country's exports of losing preferential market access is determined by three main factors:

- (a) The coverage and structure of preferential schemes for which the LDC is currently eligible, but will cease to be eligible (possibly after transition period) as a result of graduation;
- (b) The product composition of exports, and their distribution across markets;
- (c) The fallback tariffs to which the country's exports will be subject after graduation.

With respect to the first element, a growing number of developed countries and ODCs have adopted some form of preferential schemes for LDCs over time, making significant progress towards the goal (enshrined in both the Sustainable Development Goals and the WTO Doha Agenda) of providing duty-free quota-free (DFQF) market access to LDCs' exports.<sup>10</sup> However, these schemes differ significantly in terms of product coverage, exclusion lists (that is, tariff lines for which no liberalization is granted) and preference margins (Laird, 2012) (table 4.2). Their overall impact thus depends on the interplay between the specific features of the various schemes, and the composition and geographical distribution of LDCs' exports. It is well-established that the effectiveness of preferential schemes is weakened by their incomplete coverage, particularly given the heavy concentration of LDC exports in a very narrow range of products. Moreover, the remaining tariffs and tariff peaks often affect sectors that are commercially relevant for LDCs, notably agricultural products, textiles and apparel (Borchert et al., 2011; Laird, 2012). Utilization of preferential schemes, and hence their effectiveness, also appears to be affected positively by the size of preference margins, and negatively by the costs of compliance with the associated rules of origin (International Trade Centre, 2010; Keck and Lendle, 2012; Hakobyan, 2015).

While graduation ultimately results in ineligibility for such LDC-specific preference schemes, this does not necessarily mean that the graduate's exports will be subject to most-favoured nation (MFN) treatment, as graduating countries may continue to benefit from bilateral, regional or other (non-LDC-specific) preferential arrangements with trade partners. In these circumstances, LDC graduates may retain a significant margin over the MFN rate, at least limiting the degree of preference loss. For example, on graduation, an LDC participating in the GSTP agreement would lose the benefits of the special concessions accorded to LDCs by other GSTP members; but it would retain the broader preferential treatment stemming from GSTP membership.

Similarly, in cases where the LDC preferential scheme is part of the broader GSP, an LDC graduate would cease to benefit from some special concessions, but would in principle retain some degree of preferential access as an ODC.<sup>11</sup> In some cases, graduating countries may even escape preference losses in some markets entirely, for example through unilateral preference schemes such as the

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*LDC graduation entails the loss of preferential market access under LDC-specific schemes.*

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*The impact of graduation depends on the interplay between the features of each scheme and each LDC's export patterns...*

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*...and the tariffs applicable to its exports after graduation, which may be affected by other trade agreements.*

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Table 4.2. Overview of selected preferential market access schemes in favour of LDCs

Preference-granting country/economy	Number of dutiable tariff lines (national tariff lines)*	Duty-free coverage (major exclusions)	References on notifications
Australia	0	100%	WT/COMTD/N/18
Canada	105	98.6% (dairy, eggs and poultry)	WT/COMTD/N/15/Add.1, WT/COMTD/N/15/Add.2 and WT/COMTD/N/15/Add.3
China	..	97%	WT/COMTD/N/39 and WT/COMTD/N/39/Add.1/Rev.1 WT/COMTD/LDC/M/76
European Union	91	99.0% (arms and ammunitions)	WT/COMTD/N/4/Add.2, WT/COMTD/N/4/Add.4, WT/COMTD/N/4/Add.5 and WT/COMTD/N/4/Add.6
India	674	94.1% (meat and dairy products, vegetables, coffee, tobacco, iron and steel products, copper products, etc.)	WT/COMTD/N/38
Japan	197	97.9% (rice, sugar, fishery products, articles of leather)	WT/COMTD/N/2/Add.14 and WT/COMTD/N/2/Add.15
Republic of Korea	1 180	90.4% (meat, fish, vegetables, food products, etc.)	WT/COMTD/N/12/Rev.1 and WT/COMTD/N/12/Rev.1/Add.1
Russian Federation (2012)	6 885	38.1% (exclusions cover a wide range of tariff lines including petroleum products, copper, iron ores, articles of leather, articles of apparel and clothing, etc.)	WT/COMTD/N/42
Turkey (2011)	2 384	79.7% (meat, fish, food, steel products, etc.)	-
United States**	1 864	82.6% (dairy products, sugar, cocoa, articles of leather, cotton, articles of apparel and clothing, other textiles and textile articles, footwear, watches, etc.)	WT/COMTD/N/1/Add.7 and WT/COMTD/N/1/Add.8

Source: UNCTAD secretariat compilation, based on Laird (2012) and WTO (2014).

Notes: The table only reports preferential trade arrangements by G20 member countries; in addition, as of June 2016 the following countries/territories have notified to the WTO some preferential market access schemes in favour of the LDCs: Chile, Iceland, Kazakhstan, Kyrgyzstan, Morocco, New Zealand, Norway, Switzerland, Taiwan Province of China, Tajikistan, and Thailand.

\* Tariff lines may vary from year to year due to change in national tariff nomenclature.

\*\* In addition to the GSP, the United States provides two other major preferential schemes of relevance for LDCs, namely the Caribbean Basin Trade Partnership Act (CBTPA) - which grants duty-free access for most products originating from Haiti and other Caribbean countries - and the African Growth and Opportunity Act (AGOA) granting further tariff reductions (compared to the GSP) to 37 qualifying African countries, 24 of which LDCs.

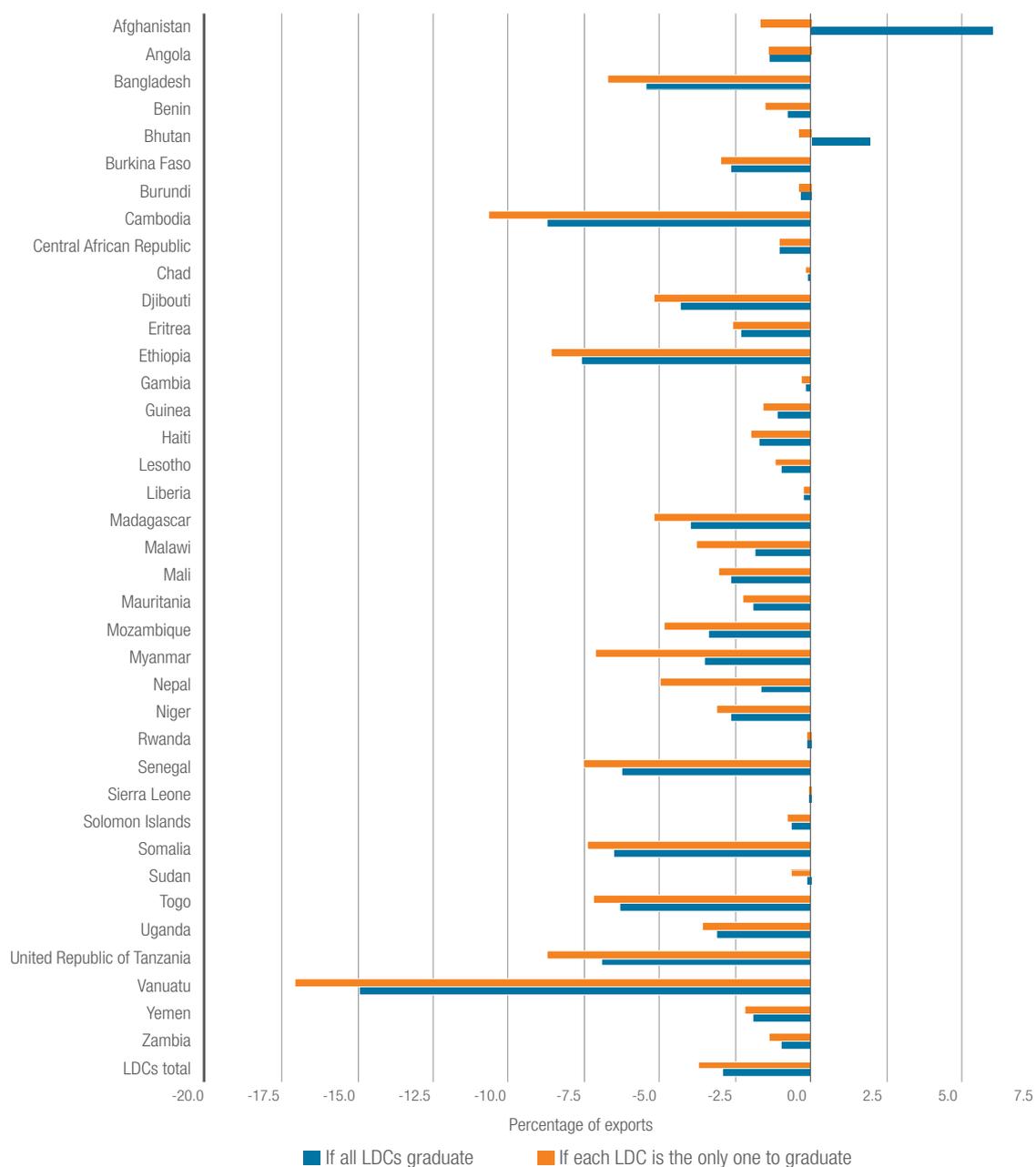
United States' African Growth and Opportunity Act (AGOA) or membership of a bilateral or regional trade agreement whose provisions are not dependent on LDC status.<sup>12</sup>

Since all the above factors are context-specific and depend on the particular trade pattern and trade agreements of each country, their potential impacts should be carefully assessed in preparation for graduation, taking into account the future trade context. The ex-ante impact assessment and vulnerability profile produced at the time of graduation are intended in part to provide the basis for such an assessment.

*The potential impact of losing LDC-specific trade preferences is estimated at \$4.2 billion annually for LDCs as a whole.*

While such an exercise is beyond the scope of this Report, this section seeks to estimate the order of magnitude of potential preference losses in G20 markets related to LDC graduation, based on the methodology presented in annex 1. Figure 4.3 shows the results of this analysis for the 38 LDCs for which data are available, based on simulations of two hypothetical scenarios, representing the upper and lower bounds of the potential impacts. In the first, a single LDC graduates, so that only its own tariffs are affected. Consequently, the changes in the tariffs it faces are translated directly into an equivalent change in its preference margins. In the second, all LDCs graduate, and the effects on each are estimated. In this case, the direct effect on preference margins of the

Figure 4.3. Effects of preference losses related to LDC graduation vis-à-vis G20 countries



Source: UNCTAD secretariat calculations.

reduction in tariffs faced by each country is at least partly offset by the reduction in tariffs faced by others, so that the effect on preference margins is ambiguous.

This analysis indicates a potential effect on LDCs of losing LDC-specific preferential treatment in the G20 countries equivalent to a reduction of 3–4 per cent of their merchandise export revenues. If extrapolated to all 48 LDCs, this would amount to more than \$4.2 billion per year (table 4.3). It should be noted, however, that these effects may be diminished over time to the extent that tariffs on imports from ODCs are reduced (for example, under mega-regional trade agreements). This would have the effect of reducing LDCs' preference margins in the markets concerned, and thus the costs of losing preferential market access on graduation.

*The greatest trade effects are on agricultural commodities, textiles and apparel.*

The greatest adverse effects would be on exports for which tariffs are generally highest for non-LDCs, namely agricultural commodities, textiles and

**Table 4.3. Annual effects of preference losses extrapolated to all LDCs, by region**

	Exports to G20 countries (\$ millions)	Percentage effect (weighted average of LDCs in the region)	Overall effect of losing LDC preferential market access (\$ millions)
Total LDCs	145 497	-2.9	-4 270
African LDCs	104 572	-1.7	-1 817
Asian LDCs	40 475	-5.2	-2 093
Island LDCs	450	-2.4	-11

Source: UNCTAD secretariat calculations.

Notes: Exports of all LDCs (including those without detailed tariff data) to the G20 countries mentioned in annex 1 of the main text. Since the table refers to LDCs by region, effects are computed in the hypothetical scenario where all LDCs have graduated, and should be regarded as a "lower bound" of potential export losses related to the phasing out of LDC-specific preferential schemes.

*African LDCs will be typically less adversely affected than Asian LDCs.*

apparel (figure 4.4). At the other end of the scale, low tariffs on energy, mining and wood products (regardless of LDC status), mean that exports in these categories would not be greatly affected by loss of preferential market access.

Consequently, the potential impact of loss of preferential market access differs widely between LDCs and across regions, primarily reflecting differences in their export patterns and fallback tariffs. African LDCs are typically less adversely affected than Asian LDCs for two main reasons.

- First, African LDCs' exports are more dominated by primary commodities, whose tariffs tend to be lower regardless of LDC status (with the exception of agricultural commodities and animal products).
- Second, while existing regional trade agreements — the Association of Southeast Asian Nations (ASEAN)–China and ASEAN–India agreements — would allow Asian LDCs to retain significant preference margins in regional markets after graduation, they would experience a significant worsening of their access to key developed country markets. Many African LDCs, conversely, would retain significant preference margins in major Western markets even after graduation, owing particularly to AGOA and the EPA initiative.<sup>13</sup> It should be noted, however, that reciprocal trade agreements have implications on the import side as well as the export side, and that EPAs require a progressive opening of some 80 per cent of the domestic markets of signatory countries to European Union exports.

For Asian LDCs, the greatest adverse effects would be on textile and apparel exports. In the case of African LDCs, the main impact would be on exports of agricultural commodities other than wood and animal products, and to a lesser extent on non-agricultural exports other than energy and mining products, textiles and apparel. In a few cases, such as Mali and Vanuatu, exports of animal products or fish would also be substantially affected, mainly because of high fallback tariffs in key export markets.

It may be observed in figure 4.3 that two countries — Afghanistan and Bhutan — show the apparently perverse result of a positive impact of losing preferences in the scenario of all LDCs graduating. This highlights an important point: that the cost of graduation depends in part upon which other LDCs have already graduated.

As noted above, in the scenario of all countries graduating, each LDC's loss of preferences is partly offset by the effects of competing LDCs also losing preferences, which limits the impact on preference margins. Afghanistan and Bhutan represent outliers in this respect, in that the cost of their own loss of LDC-specific market access is more than offset by the gains resulting from other LDCs losing such access. This arises largely because both countries have preferential bilateral trade agreements with India, so that the effect of graduation

*The cost of graduation depends in part upon which other LDCs have already graduated...*

*...because the value of preferential market access increases as other LDCs lose such access on graduation.*

on access to the Indian market will at most be very limited. Conversely, other LDCs will face much greater tariff increases on graduation, so that the preference margins of Afghanistan and Bhutan in the Indian market will be increased significantly. This has a considerable impact, as both Afghanistan and Bhutan are landlocked countries neighbouring India, which is consequently their major export destination.

Though an extreme case, this illustrates a more general issue — while each country loses from its own loss of preference at graduation, it gains (generally only slightly) from an increase in its preference margins when other LDCs graduate. Equally, as other LDCs graduate, the value of preferential market access is increased, as the group of countries receiving market preferences becomes progressively smaller, increasing overall preference margins. Thus, the cost of graduation becomes somewhat greater over time as other LDCs graduate.

It should also be noted that the analysis presented above takes account only of the direct effects on trade of loss of preferences, based on the current geographical distribution and product composition of exports. Additional dynamic costs may arise to the extent that the reduction in competitiveness associated with loss of preferential access limits opportunities for export diversification through sales of new products and/or entry into new markets.

Beyond its direct trade benefits, preferential access to major export markets can play a significant role in attracting FDI, notably in the context of buyer-driven global value chains (UNCTAD and UNIDO, 2011; UNCTAD, 2013). For example, the locational decisions of investors from Taiwan Province of China who have established clothing factories in Lesotho and Madagascar have been motivated not only by relatively low labour costs, but also, more importantly, by the opportunity to exploit preferential access to the United States market under AGOA (Staritz and Morris, 2013; Morris and Staritz, 2014). Where LDC-specific market preferences play a similar role, loss of preferential market access following graduation (and any related uncertainty with respect to smooth transition provisions) could affect a country's attractiveness for FDI in certain sectors.

There are two possible means of avoiding or limiting the impact of loss of preferential market access, although neither is costless or necessarily reliable. First, a graduating country may be able to maintain preference margins following graduation, at least in part, through bilateral negotiations with its trade partners. However, this would require a proactive effort, matched by the required negotiating capacities, and (as in any negotiation) success might well require concessions to be made in other areas. Much also depends on the goodwill of trade partners. Bilateral negotiations over preferential treatment may also be influenced by other factors, such as geographical proximity, geopolitical considerations, and natural resource endowments considered to be of strategic importance. Such considerations create a playing field that is by no means level, and by no means always advantages those in greatest need.

Second, policy measures can be implemented to counter the reduction in competitiveness arising from loss of preferential market access. However, this may entail substantial costs, for example for additional investments in infrastructure. Such measures are also needed, over time, as a result of preference erosion. This is a subject of concern for Bangladesh, for example, whose successful development of manufacturing and export integration into the world economy has depended significantly on its preferential market access as an LDC, under WTO, GSP schemes with bilateral partners such as the European Union and Canada, and regional trade agreements such as the South Asian Free Trade Area and the Asia-Pacific Trade Agreement (Rahman, 2014).

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*Additional indirect costs may arise from the loss of opportunities for export diversification or entry into new markets...*

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*...or reduced attractiveness to foreign investors seeking market access.*

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*Graduating countries can reduce graduation costs if they negotiate market preferences with their trading partners.*

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*It may be possible to maintain preference margins after graduation.*

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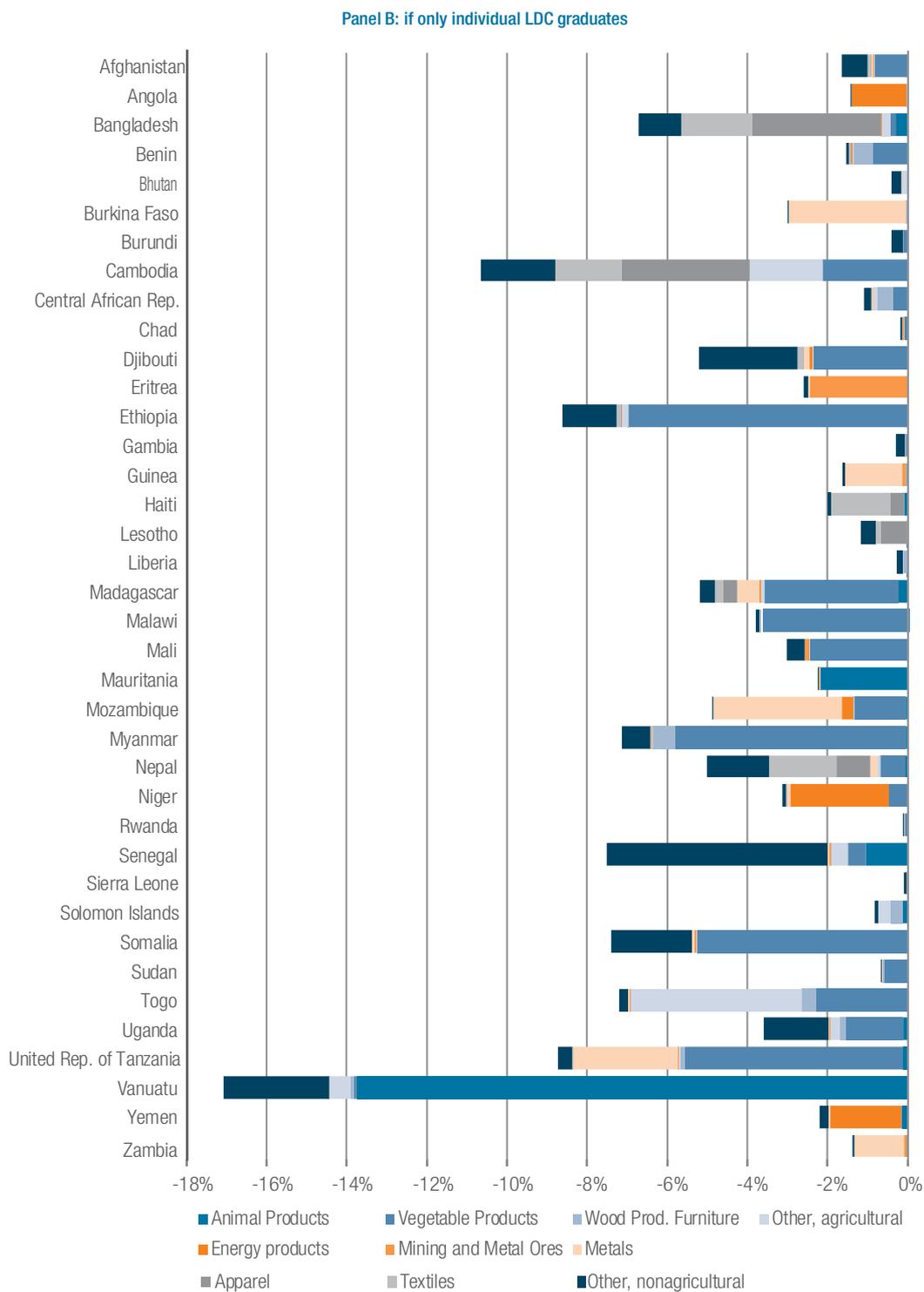
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*Preference loss can be compensated by measures to increase competitiveness.*

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Figure 4.4 (contd.)



Source: UNCTAD secretariat calculations.

Note: The following LDCs are not included in this figure due to lack of data: the Comoros, the Democratic Republic of the Congo, Equatorial Guinea, Guinea-Bissau, Kiribati, the Lao People's Democratic Republic, Sao Tome and Principe, South Sudan, Timor-Leste and Tuvalu.

### 3. SPECIAL AND DIFFERENTIAL TREATMENT

By the end of the smooth transition period, graduating countries have lost access to all LDC-specific SDT provisions under WTO rules and WTO-compliant regional trade agreements, as well as those afforded by their trading partners, retaining access only to the typically less generous provisions available to ODCs.

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*Loss of access to SDT provisions can limit policy space and flexibility and give rise to adjustment costs...*

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As discussed in chapter 3, the substantive content of many such provisions is relatively limited (as, for example, in the cases of the General Agreement on Trade in Services and the Agreement on Trade-related Investment Measures); and LDCs' ability to make full and optimal use of them is constrained by their institutional and productive capacities (UNCTAD, 2006, 2009). Nonetheless, this loss of entitlement can limit policy space and flexibility in designing and implementing economic policies and strategies for economic diversification and development of productive capacities in the post-graduation period. There are also some other adjustment costs, for example arising from the need for bilateral negotiations with trading partners on new trade and investment arrangements and for more rapid implementation of WTO rules as a result of shorter transition periods.

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*...most notably in the case of the TRIPS Agreement...*

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The TRIPS Agreement is possibly the most significant case of potential graduation costs arising from loss of eligibility for SDT provisions (although the benefits of such provisions may be limited in WTO member countries that have bilateral or regional trade or investment agreements that include TRIPS-like or "TRIPS-plus" provisions on intellectual property rights). The extended implementation periods to which LDCs are entitled under the TRIPS Agreement (as discussed in chapter 3) provide potentially important policy space for the development of technology-related sectors. The still longer implementation period for the pharmaceuticals sector has provided the policy space and the legal certainty needed to foster the development of a pharmaceutical industry in Bangladesh, for example.

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*...but such costs may be more limited for countries which have achieved graduation with momentum.*

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The loss of eligibility for the extended implementation period for LDCs under the TRIPS Agreement also gives rise to substantial additional financial costs and administrative burdens for graduating countries, to establish domestic legal and institutional intellectual property frameworks consistent with the TRIPS Agreement requirements for non-LDCs, as well as potentially higher prices for technology-intensive products. In principle, the SDT provisions under the TRIPS Agreement also provide a basis for LDCs to request specific technical assistance for technology transfer and the adaptation of foreign technologies to local conditions, although the extent of such assistance provided under such provisions appears to have been limited to date.

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*Overall, the costs of losing access to LDC-specific ISMs are likely to be limited.*

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Despite the limitations of SDT provisions for LDCs and the constraints to their utilization, their loss as a result of graduation can give rise to some additional costs beyond those arising from loss of preferential market access. However, such costs may be more limited for those countries that have attained a certain level of productive capacities and economic diversification and have thus established a self-sustaining sustainable development trajectory – that is, those that have achieved graduation with momentum. Thus, the nature of graduation itself is a significant factor in determining the SDT-related costs of graduation.

### 4. CONCLUSION

Overall, the above assessment suggests that any losses arising from the phasing out of LDC-specific support are in most cases likely to be relatively limited. Graduating countries can generally fall back on non-LDC-specific support measures (such as different financing windows, other types of

preferential treatment, and SDT provisions for ODCs), which, though less generous than those available to them before graduation, still provide a certain degree of support. This is the counterpart of the shortcomings of LDC-specific ISMs discussed in chapter 3 — that the loss of eligibility for them can be expected to have a commensurately limited impact, and certainly should not be insurmountable. This is confirmed by the experiences of past graduates.

This by no means negates the need for a smooth transition. On the contrary, strong leadership and sound preparation of the transition towards the post-graduation phase is essential, to anticipate the needs and challenges arising from graduation, to devise appropriate strategies, and to limit the adjustment costs. This includes early efforts to map and address the changes needed to institutional and legal frameworks to comply with newly applicable disciplines, notably in the context of WTO agreements. The expected increase in the number of LDC graduates in the coming years highlights the need for the international community to systematize smooth transition procedures, to increase understanding of them, and to enhance their overall effectiveness, so as to ensure that future graduates continue to receive support commensurate with their development needs.

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## D. Post-graduation challenges

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As highlighted in chapter 1 of this Report, graduation should be regarded as a milestone in a country's long-term development trajectory, and not as a goal in itself. Development challenges neither disappear nor begin anew upon graduation. Rather, the challenges of the post-graduation period represent an evolution of those experienced prior to graduation; and this evolution is itself, in part, a product of the development process that leads to graduation. Equally, while graduation in principle indicates greater resilience and/or reduced exposure to structural vulnerabilities, many LDCs (notably SIDS) can be expected to remain particularly prone to exogenous shocks even after graduation. It is noteworthy in this context that no LDC graduate has yet reached the graduation threshold for the EVI. Moreover, loss of eligibility for SDT provisions may result in a narrowing of the policy space available to address these challenges.

This indicates a substantial degree of path dependency, in that a graduating country's economic prospects after graduation are significantly affected by the economic and social development trajectory that leads it to graduation, as well as its use of the smooth transition process and the broader international environment following its graduation. In this respect, many LDCs are likely to face one or more of three major challenges beyond graduation: persistence of commodity dependence; a risk of reversion to LDC status; and the middle-income trap. These challenges are discussed in turn below.

### 1. PERSISTENT COMMODITY DEPENDENCE

Despite low international commodity prices, recent trends suggest that commodity dependence will remain a major feature of several LDC graduates (notably Angola, Equatorial Guinea and Timor-Leste), as it is of many ODCs, particularly in the lower-middle-income range (UNCTAD, 2015a). As discussed in chapter 2 of this Report, commodity exports are expected to play a major role in generating export revenues in most of the pre-2025 graduates, with the exception of manufactures exporters (Bangladesh, Bhutan and Lesotho) and service exporters (Nepal, Sao Tome and Principe, and Vanuatu). Unless graduating countries in the other (fuel, mineral and agricultural) export categories

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*There is a need to systematize smooth transition procedures.*

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*The challenges of the post-graduation period represent an evolution of those experienced prior to graduation.*

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*Such challenges include persistent commodity dependence, the risk of reversion to LDC status and the middle-income trap.*

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*Many graduates will remain heavily dependent on commodities.*

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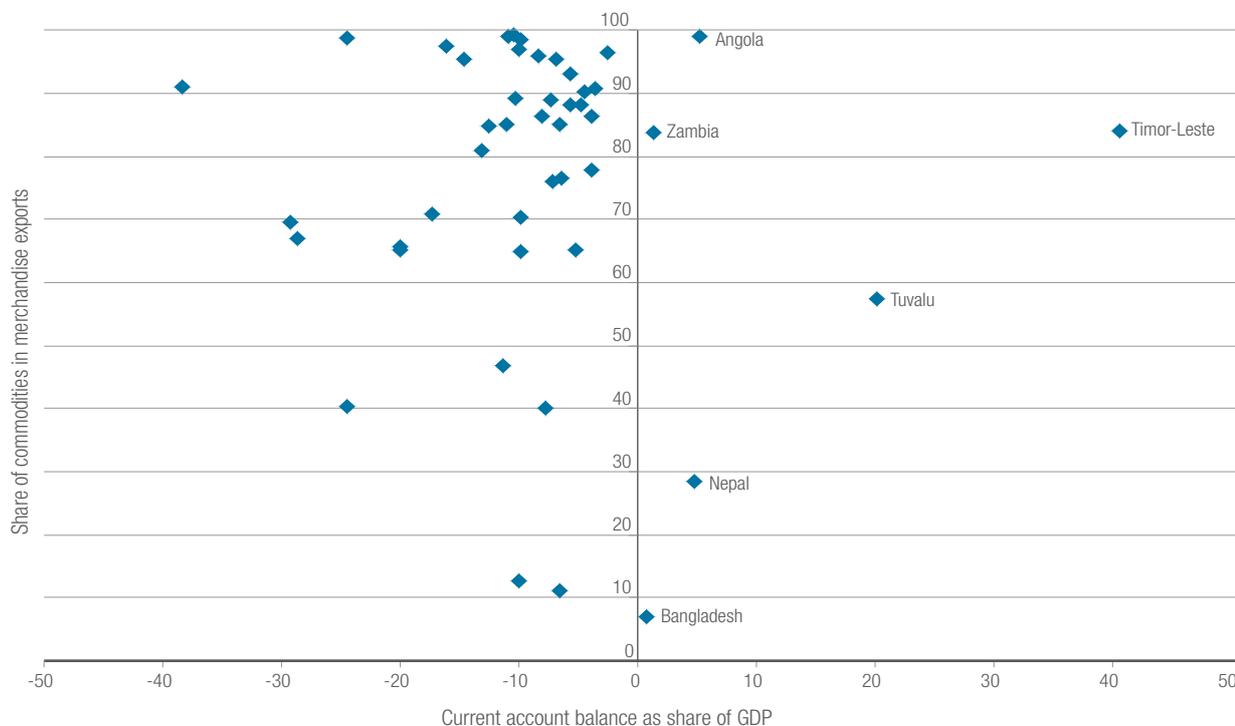
can find some means of escaping commodity dependence, they can be expected, in varying degrees, to face similar problems after graduation to those they have confronted as LDCs.<sup>14</sup>

In the overwhelming majority of LDCs, primary commodities account for a considerable proportion of export revenues and play a key role as a source of employment and livelihoods (in the case of agricultural commodities) or public revenues (in the case of fuels and minerals). This is unlikely to change abruptly on graduation.<sup>15</sup> While numerous African LDCs, in particular, depend heavily on fuels and minerals for export revenues, LDCs' commodity-dependence is exemplified across LDCs more generally by the role of the agricultural sector. While this employs some two thirds of the LDC labour force, it is characterized by slow labour productivity growth, chronic underinvestment, limited transformation of raw materials and intermediate inputs, and widespread poverty among smallholder farmers and landless labourers (UNCTAD, 2015b).

*In LDCs, commodity dependence is compounded by high import propensities and chronic current account deficits.*

While commodity dependence is in itself an important source of economic vulnerability, in the case of LDCs it is typically exacerbated by two additional factors: a high import propensity (notably of fuels), which plays an essential role in ensuring the full utilization of productive capacities (UNCTAD, 2004); and chronic current account deficits (figure 4.5).<sup>16</sup> Not only do LDCs rely on foreign savings to sustain their capital accumulation, but this reliance is frequently reinforced by major adverse terms-of-trade shocks. While such shocks may be mitigated to some extent by official finance, this exposes LDCs to risks of real exchange rate depreciation, import compression, reductions in much-needed investment and slowdowns of economic activity (Cavallo et al., 2016).

**Figure 4.5. Commodity dependence and current account balance, 2012–2014**



Source: UNCTAD secretariat calculations, based on data from the UNCTADstat database (accessed July 2016).

## 2. THE RISK OF REVERSION

The LDC classification system has four features designed to limit the risk of graduating countries falling back into the LDC category. First, the thresholds for graduation are set at levels significantly more demanding than those for inclusion in the group, to reduce the risk that economic setbacks after graduation will result in the country again becoming eligible for LDC status. Second, unlike the inclusion criteria, graduation criteria must be met in two consecutive triennial reviews, to ensure that statistical eligibility for graduation is not a result of temporary changes in indicators; and the transition process is designed to ensure that graduation actually reflects long-term structural progress (section B). Third, several of the indicators used are averaged over time, so as to reduce the impact of short-term fluctuations. Fourth, rather than recommending graduation automatically on the basis of the graduation criteria alone, the CDP also takes account of broader considerations not captured by the criteria. On several occasions, consideration of qualitative factors has led to graduation being delayed (chapter 1).

Despite these in-built precautions, reversion of graduates to the LDC category is not impossible. A country could, in principle, graduate by narrowly meeting the graduation threshold(s), without having acquired sufficient resilience or having built a sufficiently solid and diversified productive base to sustain its development progress.

This is by no means only a theoretical possibility. Some ODCs that have never previously been classified as LDCs have met the thresholds for inclusion in the LDC category, but have not entered the group because their governments have declined to accept LDC status (CDP and UNDESA, 2015). While any country can encounter growth setbacks, this is a greater risk for LDCs due to their particular vulnerability, whose structural causes do not necessarily end with graduation.

For some LDCs, environmental risks are of particular importance (figure 4.6). Most LDCs are characterized by a high level of vulnerability to environmental threats, as a result of their particular exposure to the multidimensional impacts of climate change; their less resilient infrastructure; and their heavy reliance on natural resources, and particularly on rain-fed agriculture. As the effects of climate change are expected to intensify in the coming years, these factors pose considerable and multifaceted challenges to LDCs, reinforcing the already considerable pressure on their natural resources (IPCC, 2015). This may negatively affect the prospects of LDCs and LDC graduates alike, in some cases potentially increasing the risk of a standstill or reversal of the development process.

The risk of reversion may be increased for countries that graduate in the near future to the extent that the international context for development becomes more challenging in the short and medium term. The sluggish growth rate of the world economy and global trade has led to concerns about “secular stagnation”, which translates directly into weak demand for exports from LDCs and graduates by limiting the ability of large economies to absorb additional imports. This may be expected to dampen the effect of foreign demand on LDCs’ growth and structural transformation (Teulings and Baldwin, 2014; UNCTAD, 2016b).

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*The LDC classification system is designed to limit the risk of graduating countries reverting to LDC status...*

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*...but such reversion is not impossible.*

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*For some LDCs, environmental vulnerability is particularly important...*

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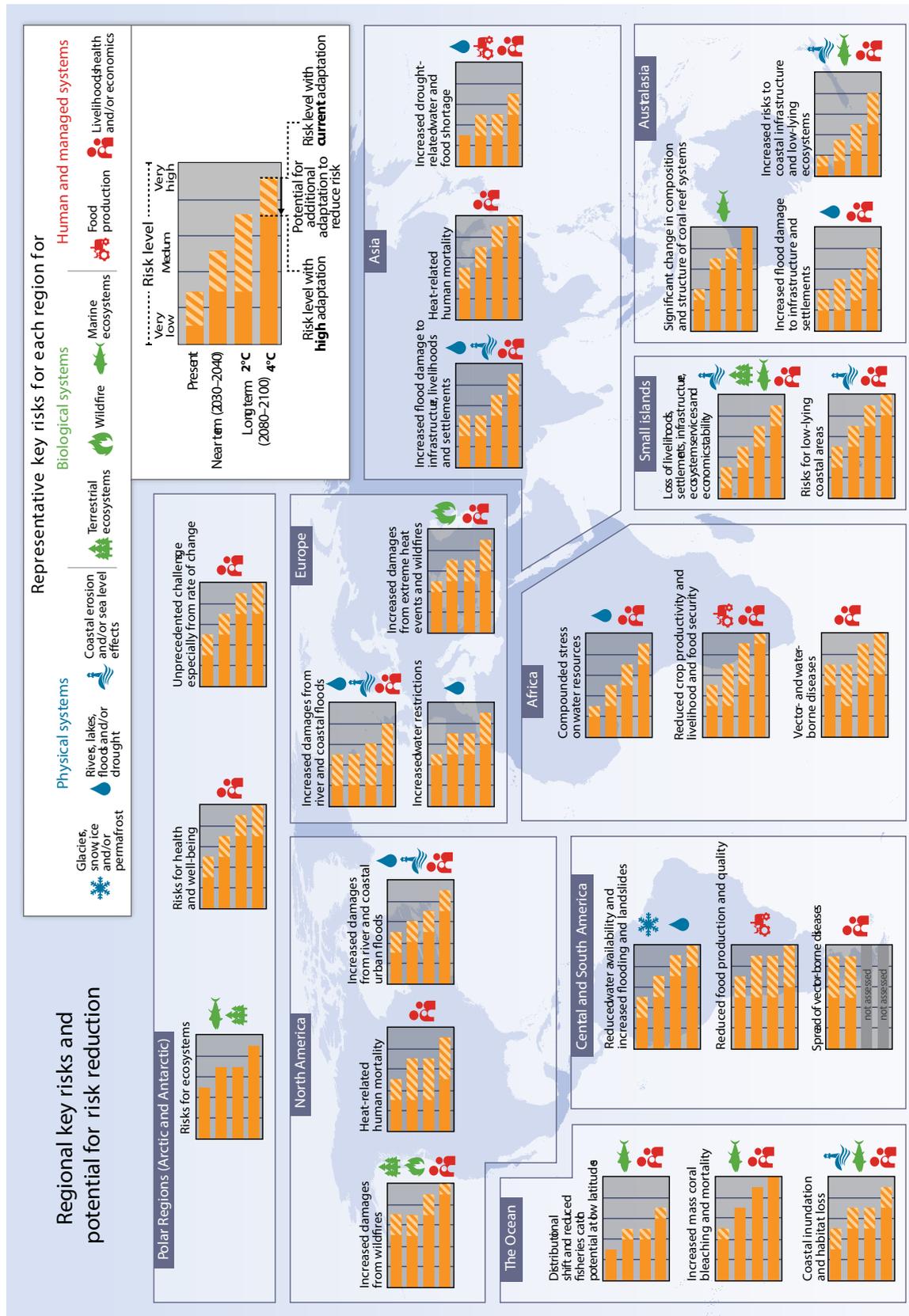


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*...and the risk of reversion may be increased by a more challenging global economic environment.*

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Figure 4.6. Climate-related risks and potential for risk reduction



### 3. THE MIDDLE-INCOME TRAP

Like ODCs, graduating LDCs may face challenges in sustaining economic growth sufficiently to progress from low to middle income and from middle to high income, rather than being caught in the middle-income trap.<sup>17</sup> While this issue is often regarded as lying well beyond LDCs' graduation horizon, 18 of the 48 LDCs are currently classified by the World Bank as middle-income countries, and one as a high-income country.<sup>18</sup> Equally, all LDC graduates remain in the middle-income group, suggesting that the persistence of structural vulnerabilities, from infrastructure gaps to low levels of human capital, may limit their ability to progress to the high-income category.

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*Graduating LDCs may later be caught in a “middle-income trap”.*

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The challenges of economic convergence are demonstrated by the relatively low (and arguably declining) probability of moving from low- and middle-income groups to high-income level, and the increasing probability of falling back into a lower category (UNCTAD, 2016b). While there is no consensus on a rigorous definition of the middle-income trap (box 4.2), or even on its existence, the concept can provide insights into the policy challenges that productivity slowdowns and other key transitions present for structural transformation and graduation with momentum (Gill and Kharas, 2015; Agenor, 2016) it has become popular among policy makers and researchers.

Explanations of the middle-income trap can be divided into three broad categories. The first emphasizes the transition from a growth paradigm driven primarily by capital accumulation to one founded on a knowledge-based economy and growth of total factor productivity (Eichengreen et al., 2013; Abdychev et al., 2015). According to this interpretation, the middle-income trap arises from the progressive exhaustion of potential gains from capital accumulation and of underemployed labour, progressively weakening the country's growth prospects.<sup>19</sup>

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*This concept can be useful to understand some of the policy challenges for graduation with momentum.*

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The second interpretation focuses primarily on the evolution of a country's comparative advantage (Jankowska et al., 2012). As domestic labour costs increase, countries may become squeezed between lower-cost economies that progressively crowd out their labour-intensive exports and more sophisticated countries with greater competitiveness in high-value-added products. This suggests that the process of structural transformation is far from automatic, and that countries may become stalled at a middle level of export sophistication.

The third proposed explanation focuses on political and institutional frameworks, including the corrosive role of inequality on social capital and reform coalitions. According to this account, the transition to a knowledge-based society requires complex policies and considerable coordination, which may tax existing administrative capacities. This may be especially problematic where political capacities are weakened by the fragmentation of social groups and potential support coalitions (Keijzer et al., 2013; Doner and Schneider, forthcoming).

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*The middle-income trap highlights the key role of structural transformation in development.*

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None of these explanations, in itself, is fully satisfactory (UNCTAD, 2016b). However, they have a fundamental commonality: the central role of structural transformation in the development process. From an LDC perspective, the debate about the middle-income trap thus represents an important reminder of the imperative of maintaining the momentum of structural transformation, and of establishing the foundations for a viable future development trajectory as an integral part of graduation strategies. In particular, it demonstrates that the importance of structural transformation and the challenges to achieving it are not limited to the earliest stages of development, but remain throughout the course of development.

As elaborated in greater detail in chapter 5, overcoming these challenges requires:

- Supportive macroeconomic policies that address supply-side bottlenecks, while also stimulating aggregate demand;
- Financial policies that combine mobilization of resources for productive investment with adequate regulation and supervision;
- Industrial policies that foster the continuous development of productive capabilities, nurturing infant industries and fostering backward and forward linkages, to support a continuous upgrading of the sophistication of the productive base;
- Proactive science, technology and innovation policies that foster the emergence of a skilled workforce, in line with the needs of the labour market;
- Employment generation and redistributive policies, to strengthen popular support for a developmental agenda.

*Appropriate macroeconomic, financial, STI, industrial and employment policies are needed to avoid the middle-income trap.*

#### Box 4.2. The middle-income trap and LDCs' growth performance

The expression “middle-income trap” was originally coined with reference to the “uphill struggle” middle-income countries may face in maintaining a growth rate sufficient to converge towards the high-income level (Gill and Kharas, 2007:18). However, despite a growing literature on the middle-income trap, consensus on its definition and underlying causes remains elusive (Kanchoochat, 2015; UNCTAD, 2016b). Empirical assessments of its existence have adopted three broad approaches, although none is entirely free of possible econometric concerns or issues regarding its robustness (Agenor, 2016).

The first approach rests on the observation that transitions between income groups are relatively rare and occur only over long periods, resulting in a clustering of countries in the middle-income range (Spence, 2011; World Bank, 2013; Felipe et al., 2014). This is mirrored in the experiences of LDCs and LDC graduates: based on the World Bank's classification, 33 LDCs and two of the four past graduates have remained in the same income category since 1987 (box table 4.1). Moreover, the few transitions that have occurred during this period have generally entailed a movement from low- to lower-middle-income level, while only two LDCs (Angola and Tuvalu) have reached the upper-middle level and one (Equatorial Guinea) the high-income level.

A second approach is to consider countries' convergence towards a benchmark advanced country. Studies using this approach have generally found a relatively low probability of middle-income countries converging towards the income level of the frontier economy (Im and Rosenblatt, 2013; Arias and Wen, 2016). Applying this approach to LDCs' long-term growth performance suggests that relative convergence is the exception rather than the rule. Box figure 4.1 shows the distribution of the 39 current LDCs for which data are available according to their income per capita relative to the United States. While the overwhelming majority of LDCs (34 of 39) had an income per capita exceeding 4 per cent of that of the United States in the 1950s, a growing number started to lag behind from the 1970s onwards. While some rapidly growing LDCs managed to reverse this divergence partially during the 2000s, others have fallen below the 2 per cent level.<sup>1</sup>

The third strand of empirical studies suggests that middle-income countries tend to be more prone to growth slowdowns than either high- or low-income countries (Aiyar et al., 2013; Eichengreen et al., 2013). Although the precise definitions of a growth slowdown vary among such studies, and are not aimed at capturing the specificities of LDCs,<sup>2</sup> this observation is clearly applicable to LDCs, whose growth performance has historically been erratic, being marked by a high incidence of both accelerations and collapses (UNCTAD, 2010). In the 1950–2010 period, LDCs on average experienced more than 20 years of declining real GDP per capita, compared with around 15 years for ODCs and fewer than 10 years for developed countries (box figure 4.2).<sup>3</sup> While growth rates were similar across the three groups in years of positive growth, the average contraction in LDCs (-4.0 per cent) was sharper than in ODCs (-3.7 per cent) or developed countries (-2.8 per cent).

<sup>1</sup> The experience of the two LDC graduates for which data are available, Botswana and Cabo Verde, is only slightly more encouraging. While these two countries experienced some long-term income convergence relative to the United States, this progress was not consistent, but punctuated by years of divergence.

<sup>2</sup> Unlike Aiyar et al. (2013), who examine deviations from the growth rate predicted by a standard neoclassical growth model, Eichengreen et al. (2013) define a growth slowdown as a period in which the seven-year average annual growth rate declines by at least 2 percentage points, having averaged at least 3.5 per cent in the previous seven years, in a country with GDP per capita greater than \$10,000 (at 2005 international purchasing power parity).

<sup>3</sup> The analysis included in this paragraph and in the following two paragraphs is based on data from the Maddison Project database, which contains time-series data for real GDP per capita — measured in constant 1990 international dollars — for the period 1950–2010 (Bolt and van Zanden, 2014).

Box 4.2 (contd.)

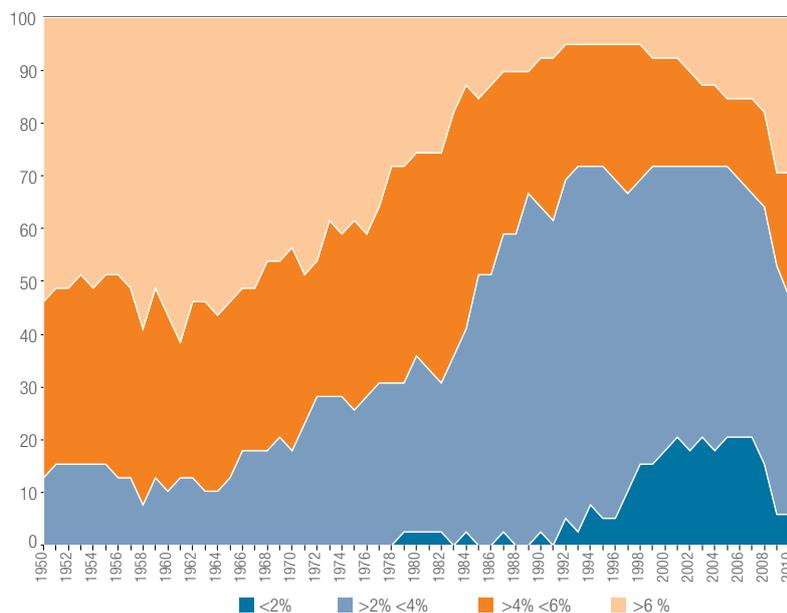
Box table 4.1. Transition matrix across World Bank income categories, for LDC and LDC graduates				
Current category 2016 \ Starting category 1987	Low income	Lower-middle income	Upper-middle income	High income
Low Income	Afghanistan	Bangladesh	Angola (1988)	Equatorial Guinea
	Benin	Bhutan	<b>Maldives</b>	
	Burkina Faso	Lao People's Democratic Republic		
	Burundi	Myanmar		
	Cambodia	Sao Tome and Principe		
	Central African Republic	Sudan		
	Chad	Timor-Leste (2001)		
	Comoros	Zambia		
	Democratic Republic of the Congo	Lesotho		
	Eritrea (1992)	Mauritania		
	Ethiopia	Solomon Islands		
	Gambia			
	Guinea			
	Guinea-Bissau			
	Haiti			
	Liberia			
	Madagascar			
	Malawi			
	Mali			
	Mozambique			
	Nepal			
	Niger			
	Rwanda			
	Sierra Leone			
	Somalia			
Togo				
Uganda				
United Republic of Tanzania				
Lower-middle income	South Sudan (2011)	Djibouti (1990)	Tuvalu (2009)	
		Kiribati	<b>Botswana</b>	
		Vanuatu		
		Senegal		
		Yemen		
		<b>Cabo Verde (1988)</b> <b>Samoa</b>		

Source: UNCTAD secretariat calculations, based on <http://databank.worldbank.org/data/download/site-content/OGHIST.xls> (accessed June 2016).

Note: Unless data were available from 1987, the first year in which the country was included in the World Bank income classification is reported in the parenthesis.

Box 4.2 (contd.)

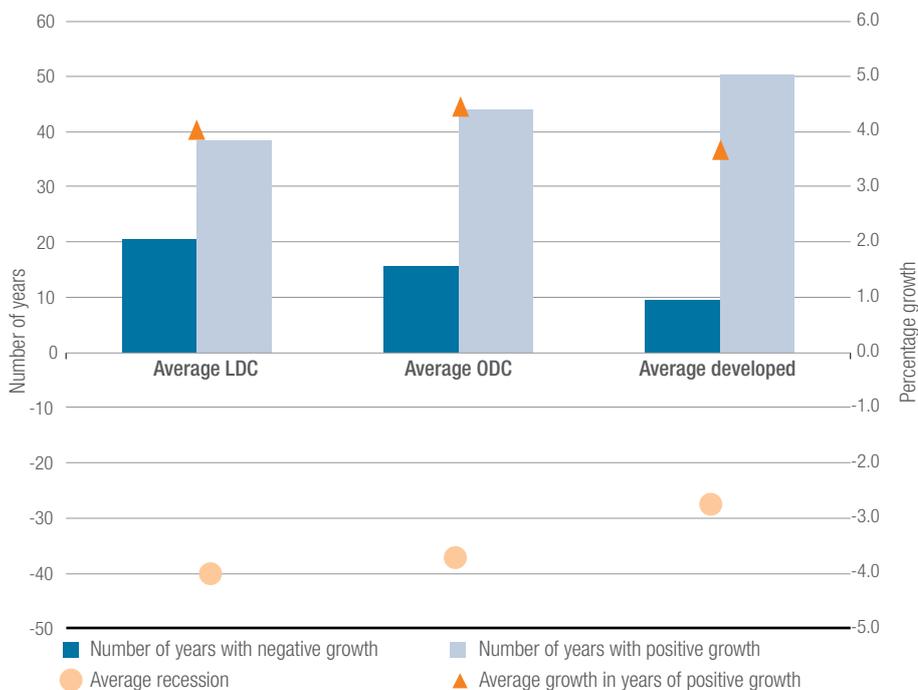
**Box figure 4.1. Distribution of current LDCs in terms of GDP per capita relative to the United States**



Source: UNCTAD secretariat calculations, based on data from the Maddison Project database (<http://www.gdpc.net/maddison/maddison-project/home.htm>), 2013 version (accessed June 2016).

Note: Data are only available for 39 current LDCs, except for 2009 and 2010 when only 17 LDCs are covered.

**Box figure 4.2. Real GDP per-capita growth, 1950–2010**



Source: UNCTAD secretariat calculations, based on data from The Maddison Project database (<http://www.gdpc.net/maddison/maddison-project/home.htm>), 2013 version (accessed June 2016).

## E. The post-graduation development paths of the past graduates

The four countries that have graduated from the LDC category to date have maintained their development momentum since graduation. Not only has no graduate country suffered a reversal of its development progress sufficient to merit consideration for reinclusion in the LDC category, but all have continued to increase their national income and improve their human assets (table 4.4). Despite rapid growth, however, all four countries have remained very vulnerable economically and environmentally, their EVI indices remaining well above the threshold for inclusion in the LDC category even in 2015. Even Botswana,<sup>20</sup> which graduated from the LDC category more than 20 years ago, still has a vulnerability level similar to that of Samoa, a SIDS that graduated only in 2014. This highlights the major risk of continued vulnerability far beyond graduation, even in a context of an apparently very successful development process.

*While all four past graduates have continued to increase national income and human assets, they remain economically vulnerable.*

### 1. EXTERNAL DEBT

Figure 4.7 shows the level of external debt for all graduated countries relative to its level at the time of graduation. Indebtedness has increased substantially

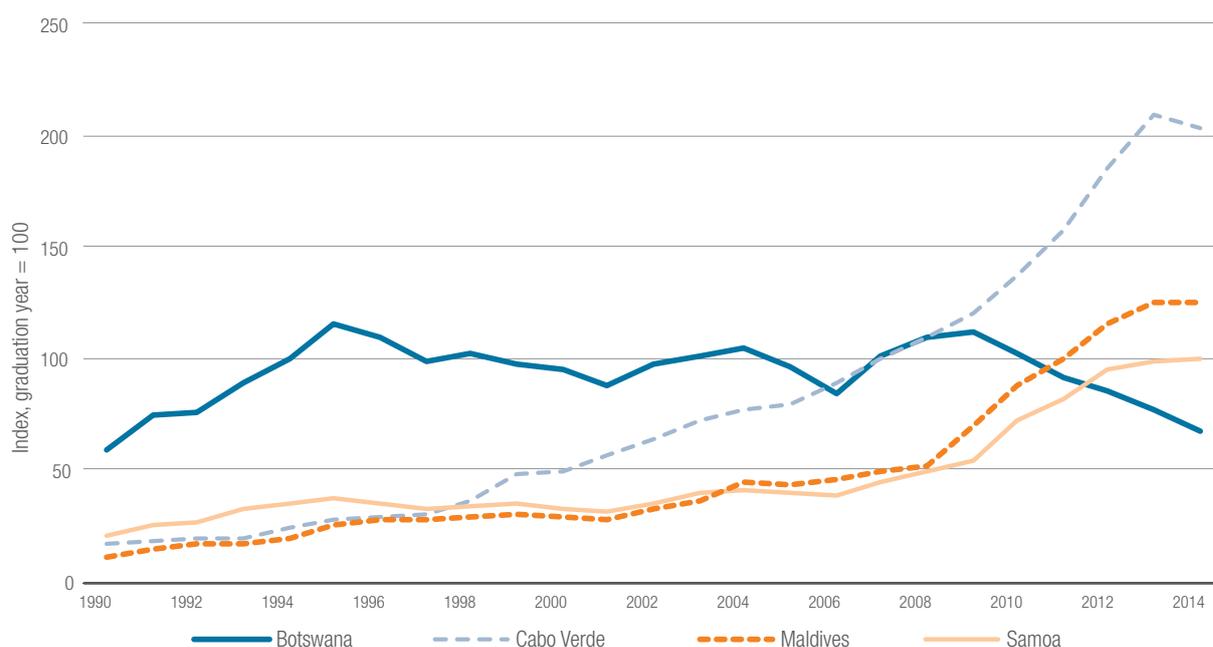
**Table 4.4. Performance of graduated countries, 2015 indicators**

	GNI per capita (\$)	EVI	HAI
Threshold for inclusion	< \$1 035	< 36.0	> 60.0
Threshold for graduation	> \$1 242	< 32.0	> 66.0
Botswana	7 410	43.4	75.9
Cabo Verde	3 595	38.8	88.6
Maldives	6 645	49.5	91.3
Samoa	3 319	43.9	94.4

Source: CDP secretariat.

*Indebtedness has risen substantially since graduation in all three recent graduates, though not in Botswana.*

**Figure 4.7. External debt level of the graduated countries, index, graduation year = 100**



Source: UNCTAD secretariat calculations, based on data from World Bank, World Development Indicators database (accessed May 2016).  
 Note: The graduation years were as follows: 1994 for Botswana, 2007 for Cabo Verde, 2011 for Maldives and 2014 for Samoa.

*Growing debt reflects persistent weaknesses in external balances.*

in all three recent graduation cases. This trend is of particular concern in the case of Cabo Verde, whose debt has doubled since graduation, accelerating the increasing trend over the previous decade, to reach 86 per cent of GNI in 2014. External debt has also followed a strong upward trend in Maldives and Samoa, reaching 39 per cent and 58 per cent of GNI, respectively. This partly reflects increased expenditure for recovery and reconstruction following severe seismological and meteorological shocks, as well as the effects of the international financial crisis. In addition to expenditure for infrastructure reconstruction, both Governments have implemented several initiatives to provide income support and other assistance to affected households, as well as facilitating credit and subsidized lending.

Increasing debt in these countries appears to be a continuation of upward trends established in the pre-graduation phase rather than being attributable to graduation, but it is indicative of persistent weaknesses in their external balances. While their debt currently appears to be sustainable, use of debt-creating flows as a source of development finance in the face of inadequate ODA can give rise to an upward spiral of debt to unsustainable levels. This highlights the importance of identifying other financing options (UNCTAD, 2016a).

Botswana, by contrast, has succeeded in reducing its external debt in recent years, to an average of 15–17 per cent of GNI since the 2008 financial crisis – a level previously reached in the early 1990s. While this partly reflects debt forgiveness of \$459 million in 2008, exceptional planning and Government management have also contributed to keeping debt relatively low.

*ODA declined upon graduation, but remained relatively high in Cabo Verde and Samoa.*

## 2. OFFICIAL DEVELOPMENT ASSISTANCE AND FOREIGN DIRECT INVESTMENT

Table 4.5 presents a comparison of ODA flows to the four graduate countries in the 10 years preceding graduation and the post-graduation period (limited to 10 years in the case of Botswana). This shows a systematic reduction in net ODA receipts relative to GNI following graduation, although the ratio remained high in Cabo Verde and Samoa, at 14 per cent and 12 per cent respectively. For the three recent graduates, however, this comparison is complicated by the relatively short periods since their graduation (especially in the case of Samoa) and temporary increases in ODA in response to acute external shocks during the pre-graduation period (for example, the devastating tsunami of 2004 in Maldives, which gave rise to considerable reconstruction needs in the following year).

*FDI flows have increased, except in Botswana.*

Table 4.5 also shows increases in FDI flows to the three recent graduate countries (though not Botswana) following graduation, particularly in the cases of Cabo Verde and Maldives. However, graduation itself is only one of many potential influences on such flows, including the introduction by some

**Table 4.5. Net ODA receipts**

	Net ODA as share of GNI		FDI as share of GDP	
	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
Botswana	2.9	1.3	2.5	2.2
Cabo Verde	18.2	14.0	5.5	8.0
Maldives	3.4	1.7	5.8	12.9
Samoa	12.4	12.0	2.8	3.3

*Source:* OECD Creditor Reporting System; World Bank, World Development Indicators database; UNCTADstat database (accessed August 2016).

*Note:* Ten-year average prior to graduation (“Pre” in the table) and ten-year average, or less, post-graduation (“Post” in the table). The post-graduation periods are: 1994–2003 for Botswana, 2007–2014 for Cabo Verde, 2011–2014 for Maldives and 2014 for Samoa.

governments of new laws aimed at attracting foreign investors, promoting domestic investment and facilitating entrepreneurial activities.

### 3. ECONOMIC DIVERSIFICATION POLICIES

The four graduates have achieved varying degrees of structural changes in their economies since graduation (table 4.6). The share of the primary sector in value added has decreased dramatically in all four cases, mainly to the benefit of the tertiary sector. In the three SIDS, this has been driven by tourism, reflecting their largely tourism-driven growth strategies. However, while these strategies have been successful in raising growth rates, they also appear to have increased export concentration, and may thus have intensified economic vulnerability.

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*The four graduates have achieved varying degrees of structural change...*

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The share of industry in value added decreased between the pre- and post-graduation periods in all cases except Maldives, where increased tourism-related construction raised the overall share of construction in GDP from 7 per cent to 11 per cent, more than offsetting a small decline in manufacturing. The reduction in the share of manufacturing in value added following graduation in all four cases, from already very low levels, is a matter of concern, and this trend may well continue.

Those countries that were dependent on one sector for their growth prior to graduation have remained dependent on the same sector since. The export concentration index of Cabo Verde and Maldives has been substantially higher in the post-graduation period than prior to graduation, reflecting increased dependence on tourist receipts (table 4.7). While data for such a comparison are unavailable for Botswana, it has remained heavily dependent on diamond exports. By contrast, Samoa's export concentration index has fallen substantially, reflecting an extensive programme to revitalize its agricultural and fishery exports. It should, however, be noted that the post-graduation period in this case covers only a single year.

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*...but they all remain dependent on the export sector that led them to graduation.*

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**Table 4.6. Sectoral composition of gross value added, averages before and after graduation, selected countries**

	Botswana		Cabo Verde		Maldives		Samoa	
	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
<b>Agriculture, hunting, forestry, fishing</b>	5.8	3.3	13.4	9.3	5.7	3.7	10.6	9.2
<b>Industry</b>	55.1	47.3	24.5	20.8	14.1	17.8	27.7	24.9
<i>Manufacturing</i>	6.3	6.2	7.3	6.2	5.4	5.3	13.1	10.0
<i>Construction</i>	7.0	6.2	10.0	12.2	7.0	11.3	10.7	10.1
<b>Services</b>	39.1	49.4	62.1	69.9	80.3	78.6	61.7	65.8
<i>Wholesale, retail trade, restaurants and hotels</i>	7.2	11.9	15.3	19.6	32.9	31.1	27.6	33.6
<i>Transport, storage and communications</i>	3.2	3.7	17.0	16.4	13.5	12.6	10.2	7.6
<i>Other activities</i>	28.7	33.9	29.8	34.0	33.9	34.9	23.8	24.6

Source: UNCTADstat database (accessed September 2016).

Note: Ten-year average prior to graduation ("Pre" in the table) and ten-year average, or less, post-graduation ("Post" in the table). The post-graduation periods are: 1994–2003 for Botswana, 2007–2014 for Cabo Verde, 2011–2014 for Maldives and 2014 for Samoa.

**Table 4.7. Export concentration index, ten years pre- and post-graduation**

	<b>Pre</b>	<b>Post</b>
Botswana	..	0.72
Cabo Verde	0.35	0.41
Maldives	0.52	0.73
Samoa	0.43	0.28

Source: UNCTADstat (accessed August 2016).

Note: As for previous table.

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*Graduates' experience underlies the need for policies to promote diversification even after graduation.*

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*Botswana has achieved substantial poverty reduction since graduation, but inequality remains very high.*

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*Despite improvements in education in the graduates, skill shortages appear to persist.*

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These results further underscore the continued vulnerability of the graduate countries to external shocks as a result of their narrow economic bases and minimal vertical and horizontal economic diversification. Even after graduation, sustained and sustainable growth thus requires policies to promote diversification into other activities, sectors and markets, and to enhance the competitiveness of domestic industries through systemic productivity improvements.

#### 4. POVERTY AND INEQUALITY

Botswana achieved substantial poverty reduction after graduation, the headcount ratio declining from 34.8 per cent in 1993 to 18.2 per cent in 2009 - a rate of reduction significantly faster than that implied by Millennium Development Goal 1. While inequality increased (from an already very high level) between 1993 and 2002, it had fallen back to its 1993 level by 2009. Nonetheless, poverty remains high by the standards of ODCs, and inequality (as measured by the Gini index) remains among the highest in the world.

Data on poverty and inequality in the post-graduation period are unavailable for the three recent graduation, due to the relatively short periods since their graduation and the irregular nature and infrequency of household income and expenditure surveys. Data from around the times of their respective graduations indicates that poverty is moderate in Cabo Verde and Maldives, at 7–8 per cent, but less than 1 per cent in Samoa. Inequality is relatively low in Maldives, moderate in Samoa, and above average in Cabo Verde (table 4.8).

While all four countries have maintained relatively high education expenditures and achieved favourable educational enrolment rates, this has not produced the skilled workforce necessary to diversify their economies. The coexistence of unemployment (ranging 9.2 per cent in Cabo Verde to 18.2 per cent in Botswana in 2014) with vacant posts in the job market that employers find difficult to fill suggests a possible mismatch between educational curricula and labour market needs. The University of Botswana, for example, has reported significant mismatches between supply and demand in the labour market and highlighted concern about the job placement ratio (Nthebolang, 2013). There is a clear need for policies to reduce such skills mismatches as a means of crowding in private sector employment and reducing poverty and inequality.

**Table 4.8. Poverty rates, Gini index and unemployment rate for the graduated countries, various years**

	Poverty rates <sup>a</sup>	Gini index (per cent)	Unemployment rate, 2014
Botswana	18.2	60.5	18.2
Cabo Verde	8.1	47.2	9.2
Maldives	7.3	36.8	11.6
Samoa	0.8	42.7	..

Source: World Bank, World Development Indicators database (accessed August 2016).

Note: Data for the poverty rates and the Gini index for Botswana and Maldives refer to 2009, data for Cabo Verde refer to 2007, while data for Samoa refer to 2008. More recent data were not available.

a Measured using the poverty headcount ratio at \$1.90/day (2011 purchasing power parity), % of population.

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## F. Summary

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- While the smooth transition process can play a significant role in supporting graduation with momentum, good preparation and proactive engagement with development partners are critical.
- The prospect of a substantial increase in the number of graduation cases in the coming years highlights the need for the international community to define a more systematic and “user-friendly” set of smooth transition procedures.
- While graduation does not appear to cause sharp reductions in the availability of development finance, it may be accompanied by a reduction in concessionality and loss of access to climate finance.
- Loss of preferential market access at graduation may entail substantial costs, in the order of \$4.2 billion per year across LDCs as a whole.
- Loss of eligibility for SDT provisions in WTO agreements may result in some shrinking of policy space following graduation, but this effect is limited by the narrow scope of such provisions and constraints on LDCs’ capacity to exploit them effectively.
- Commodity dependence may persist after graduation; and a reversion to LDC status, though unlikely, cannot necessarily be ruled out.
- LDCs may be at particular risk of encountering a middle-income trap after graduation. Minimizing this risk requires graduation with momentum and early preparations to avoid the root causes of such traps.

## Notes

- 1 The G20 is an international forum comprising the world's largest developed and developing economies, together accounting for some 85 per cent of global gross domestic product (GDP). The G20 members include Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, the Republic of Korea, Mexico, the Russian Federation, Saudi Arabia, South Africa, Turkey, the United Kingdom of Great Britain and Northern Ireland, the United States of America and the European Union. Details of the coverage and methodology of the assessment of potential costs of losing LDC-specific preferential access are provided in annex 1.
- 2 The European Union extends preferential treatment under its Everything But Arms initiative to LDC graduated countries for an initial period of three years; and Australia, Canada, New Zealand, Norway, Switzerland and Turkey have applied some form of smooth transition procedures to past LDC graduates, as, to some extent, has the United States of America. At the other end of the scale, Japan applied most-favoured-nation (MFN) treatment to Maldives as early as six months after the country's effective graduation (CDP, 2012).
- 3 However, the empirical literature on the determinants of international financial flows has not investigated the impact of LDC status as such.
- 4 However, there do not appear to be any published studies formally testing the effect of LDC status on aid allocations.
- 5 The physical quality of life index is based on life expectancy at age 1, infant mortality, and literacy (Morris, 1980).
- 6 The other past graduate, Botswana, is no longer eligible for IDA lending.
- 7 The small-island exception allows a waiver to the IDA eligibility threshold for small islands that have a population less than 1.5 million, significant vulnerability due to their size and geography, and very limited creditworthiness and financing options.
- 8 For the fiscal year 2016, IDA eligibility threshold was \$1,215, compared to an LDC graduation threshold of \$1,242 (as applied in the 2015 triennial review).
- 9 In the case of Botswana, no ODA data are available for the pre-graduation period, that is to say, earlier than 1995.
- 10 As of July 2015, according to the WTO database, the following WTO members provided preferential arrangements of some kind to LDCs, either through specific schemes or as part of the broader GSP: Australia, Belarus, Canada, Chile, China, the European Union, Iceland, India, Japan, Kazakhstan, Kyrgyzstan, Morocco, New Zealand, Norway, the Republic of Korea, the Russian Federation, Switzerland, Tajikistan, Taiwan Province of China, Thailand, Turkey and the United States (<http://ptadb.wto.org/ptaList.aspx>, accessed 25 October 2016).
- 11 This is the case, for instance, in Canada, where most LDC graduates benefit from the General Preferential Tariff regime, and in the European Union, where they would ultimately become ineligible for the Everything But Arms initiative, but would continue to benefit from GSP or possibly GSP+ (unless they became high-income or upper-middle-income countries).
- 12 The key legal distinction in this respect is whether preferential market access originates from unilateral schemes (which in principle could be revoked at any time), or from bilateral/regional trade agreements. The former entail a somewhat lower degree of certainty and predictability, but are generally non-reciprocal, and thus impose no obligations on LDC members. The latter provide a greater degree of predictability, but tend to encompass some reciprocal obligations.
- 13 For example, graduation by those LDCs that have concluded EPAs with the European Union would arguably entail no significant change in their market access, as the EPAs envisage complete liberalization of European Union imports from signatory countries – that is, essentially the same market access that LDCs currently enjoy under the Everything But Arms initiative.
- 14 Exports diversification reduces the export concentration index, which is one of the components of the EVI.
- 15 Despite falling fuel prices, primary commodities on average represented three quarters of LDC exports in the period 2012–2015.
- 16 The only LDCs with current account surpluses over the 2012–2014 period are two fuels exporters (Angola and Timor-Leste); one mineral exporter (Zambia); two economies receiving large inflows of remittances (Bangladesh and Nepal); and one outlier service exporter (Tuvalu).
- 17 Unlike the World Bank income group classification on which this terminology is based (at least implicitly), the LDC criteria take into account a much broader set of dimensions,

encompassing 13 different socioeconomic, geographical and environmental indicators. However, as a result of their greater complexity and the technicalities of their application, the broader public and even policymakers tend to equate LDC graduation with the attainment of middle-income status, even though many LDCs are already classified by the World Bank as middle-income countries, and one (Equatorial Guinea) even as a high-income country.

- 18 The World Bank's income classification of countries is based on GNI per capita (computed using the Atlas method). As of June 2016, the income categories were defined as follows: low-income economies were defined as those with GNI per capita of \$1,045 or lower; lower-middle income between \$1,046 and \$4,125; upper middle-income between \$4,126 and \$12,735; and high-income economies above \$12,735. On this basis, 16 LDCs (Bangladesh, Bhutan, Djibouti, Kiribati, the Lao People's Democratic Republic, Lesotho, Mauritania, Myanmar, Sao Tome and Principe, Senegal, Solomon Islands, the Sudan, Timor-Leste, Vanuatu, Yemen and Zambia) are in the lower-middle-income group, two (Angola and Tuvalu) in the upper-middle-income group, and one (Equatorial Guinea) in the high-income group.
- 19 The originators of the concept of a middle-income trap argue that many of the challenges of middle-income countries are related to the transition between augmented Solow models and endogenous growth models, the former being better suited to characterizing the performance of low-income countries, and the latter to that of high-income countries (Gill and Kharas, 2015:14).
- 20 Up to 70 per cent of Botswana's territory is composed of the Kalahari Desert and only 5 per cent of its land mass is suitable for the purpose of arable agriculture.

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## Annex 1. Simulation of the effects of loss of trade preferences due to graduation: Methodology

This annex outlines the methodology used for the analysis of the effects of trade preferences whose results are presented in the text. It extends Nicita and Seiermann's (2016) analysis of LDCs' export performance vis-à-vis 10 G20 countries and the European Union, which account for more than 70 per cent of total LDC exports, at the Harmonized System six-digit (HS6) level of product disaggregation.<sup>1</sup>

The methodology employed here follows three steps. First, a counterfactual post-graduation scenario is constructed on the basis of pairwise trade relations between each LDC and each G20 partner, replacing the tariffs currently faced by each LDC with those faced by the most similar non-LDC developing country in terms of preferential trade agreements with the G20 partners concerned, geographical location and level of development.<sup>2</sup> This yields a matrix of 418 (38 LDCs with available data multiplied by 11 trade partners) counterfactual tariff structures, each at the HS6 level of disaggregation, representing a situation in which LDCs no longer benefit from LDC-specific preferential treatment.

Second, potential changes in applied tariffs and preference margins are computed for each HS6 tariff line by comparing the current situation with the counterfactual scenario. Since graduation implies the phasing out of some preferential market access, the effect on tariffs is unequivocally negative; but the effect on preference margins is ambiguous. Technically, however, since each country's preference margin also depends on the tariff faced by other LDCs, its precise value at graduation point will depend on which of the other LDCs have already left the LDC category.<sup>3</sup> To bypass this potential complication, two alternative approaches are used to compute preference margins: (a) keeping the average tariff of the rest of the world constant at its current level, as if each given LDC were the first one to graduate; and (b) changing the tariffs faced by all LDCs simultaneously, to simulate the effect of all LDCs having graduated. In the first case, the effect of graduation on the preference margin is unequivocally negative, whereas in the second case it is ambiguous. The "true" effect of graduation will lie between these two extremes, and depend on when each country graduates relative to its LDC competitors (for the same HS6 product in the same export market).

Third, having thus obtained the simulated changes in tariffs and preference margins, the coefficients of the gravity model estimated by Nicita and Seiermann (2016) are used to derive the overall impact on export revenues. Since these impacts are initially obtained by export destination and product, and then aggregated, they take into account the three elements mentioned above, namely, the structure of existing preferential schemes; the export pattern and its product composition; and the fallback tariffs faced by each LDC upon graduation.

While the results reported here provide a reasonable order of magnitude for the potential effects of LDC graduation, three important limitations should be noted. First, the analysis captures only the first-round impact of changes in tariffs and preference margins on exports, and as such only considers effects on the exports of products traded with the same destinations before and after graduation. Second, they take no account of complications arising from limited utilization of preferential schemes or of interactions between the tariffs applied and non-tariff barriers, particularly rules of origin. Should LDC status allow countries to benefit from more flexible rules of origin, adverse effects of graduation may well be amplified by the requirement to comply with more stringent procedures. Third, the effect of preference losses will ultimately depend on the international trade landscape at the time of graduation, which may have changed significantly from the present. For example, to the extent that LDC preference margins are further eroded (for example, as a result of mega-regional trade agreements or other bilateral agreements negotiated in the meantime), the "commercial value" of their preferential treatment as LDCs will be reduced, thus also lowering the cost of graduation (that is, the potential reduction in export revenues arising from the loss of preferential market access following graduation).

1 The G20 members considered in the analysis are Argentina, Australia, Brazil, Canada, China, the European Union, India, Indonesia, Japan, Mexico, and the United States. The Republic of Korea, the Russian Federation and Saudi Arabia are excluded because the necessary data are unavailable, while the other members of the G20 are members of the European Union, and therefore included in the European Union data. Detailed tariff data at HS6 level are not available for the Comoros, the Democratic Republic of the Congo, Guinea-Bissau, Equatorial Guinea, Kiribati, the Lao People's Democratic Republic, Sao Tome and Principe, South Sudan, Timor-Leste and Tuvalu, so that only 38 of the 48 LDCs are included in the analysis.

2 The choice of the counterfactuals reflects the status of the AGOA and EPA negotiations as of June 2016, as reported respectively at <http://agoa.info/about-agoa/country-eligibility.html> and [http://trade.ec.europa.eu/doclib/docs/2009/september/tradoc\\_144912.pdf](http://trade.ec.europa.eu/doclib/docs/2009/september/tradoc_144912.pdf) (both accessed 26 October 2016).

3 This can be seen by considering two LDC countries, X and Y, competing in a market to which they have preferential access. Intuitively, the loss of preferential treatment resulting from the graduation of X makes Y temporarily better off, so that its preferential treatment becomes "more valuable". However, this also implies a higher cost of graduation when country Y graduates and thus loses its preferential access.

Annex table A.1. Counterfactuals used in the analysis

LDCs	G20	Argentina	Australia	Brazil	Canada	China	European Union	India	Indonesia	Japan	Mexico	United States
Afghanistan		Tajikistan	Pakistan	Tajikistan	Pakistan	Tajikistan	Pakistan	Sri Lanka	Tajikistan	Pakistan	Tajikistan	Pakistan
Angola		Gabon	Botswana									
Bangladesh		Pakistan	Pakistan	Pakistan	Pakistan	Sri Lanka	Pakistan	Pakistan	Pakistan	Pakistan	Pakistan	Pakistan
Benin		Ghana	Botswana									
Bhutan		Tajikistan	Pakistan	Tajikistan	Pakistan	Tajikistan	Pakistan	Sri Lanka	Tajikistan	Pakistan	Tajikistan	Pakistan
Burkina Faso		Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Côte d'Ivoire	Ghana	Côte d'Ivoire	Botswana
Burundi		Kenya	Botswana									
Cambodia		Tajikistan	Viet Nam	Tajikistan	Viet Nam	Viet Nam	Pakistan	Viet Nam	Viet Nam	Viet Nam	Tajikistan	Viet Nam
Central African Republic		Gabon	Zimbabwe									
Chad		Gabon	Botswana									
Djibouti		Kenya	Gabon	Kenya	Gabon	Botswana						
Eritrea		Kenya	Gabon	Kenya	Gabon	Zimbabwe						
Ethiopia		Kenya	Gabon	Kenya	Gabon	Botswana						
Gambia		Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Côte d'Ivoire	Ghana	Côte d'Ivoire	Botswana
Guinea		Ghana	Botswana									
Haiti		Dominican Rep.	Haiti*									
Lesotho		Botswana	Botswana									
Liberia		Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Ghana	Ghana	Côte d'Ivoire	Côte d'Ivoire	Ghana	Côte d'Ivoire	Botswana
Madagascar		Botswana	Zimbabwe	Botswana	Zimbabwe	Zimbabwe	Zimbabwe	Botswana	Botswana	Zimbabwe	Botswana	Botswana
Malawi		Botswana	Botswana	Botswana	Botswana	Botswana	Kenya	Botswana	Botswana	Botswana	Botswana	Botswana
Mali		Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Côte d'Ivoire	Ghana	Côte d'Ivoire	Botswana
Mauritania		Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Côte d'Ivoire	Ghana	Côte d'Ivoire	Botswana
Mozambique		Zimbabwe	Botswana	Zimbabwe	Botswana	Botswana	Botswana	Zimbabwe	Zimbabwe	Botswana	Zimbabwe	Botswana
Myanmar		Viet Nam	Pakistan	Viet Nam	Viet Nam	Viet Nam	Viet Nam	Viet Nam				
Nepal		Tajikistan	Pakistan	Tajikistan	Pakistan	Tajikistan	Pakistan	Sri Lanka	Tajikistan	Pakistan	Tajikistan	Pakistan
Niger		Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Côte d'Ivoire	Ghana	Côte d'Ivoire	Botswana
Rwanda		Kenya	Botswana									
Senegal		Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Côte d'Ivoire	Ghana	Côte d'Ivoire	Botswana
Sierra Leone		Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Côte d'Ivoire	Côte d'Ivoire	Ghana	Côte d'Ivoire	Botswana
Solomon Islands		Fiji	Fiji	Fiji	Fiji	Fiji	New Caledonia	Fiji	Fiji	Fiji	Fiji	Fiji
Somalia		Kenya	Zimbabwe									
Sudan		Egypt	Kenya	Egypt	Kenya	Gabon	Gabon	Egypt	Egypt	Kenya	Egypt	Zimbabwe
United Rep. of Tanzania		Zimbabwe	Kenya	Zimbabwe	Kenya	Kenya	Kenya	Zimbabwe	Zimbabwe	Kenya	Zimbabwe	Botswana
Togo		Côte d'Ivoire	Ghana	Côte d'Ivoire	Ghana	Ghana	Ghana	Côte d'Ivoire	Côte d'Ivoire	Ghana	Côte d'Ivoire	Botswana
Uganda		Kenya	Botswana									
Vanuatu		Fiji	Fiji	Fiji	Fiji	Fiji	New Caledonia	Fiji	Fiji	Fiji	Fiji	Fiji
Yemen		Oman	Saudi Arabia									
Zambia		Botswana	Botswana	Botswana	Botswana	Gabon	Kenya	Botswana	Botswana	Botswana	Botswana	Botswana

Source: UNCTAD secretariat.

Notes: \* tariffs were left unchanged in the counterfactual, because of bilateral arrangements with the respective G20 partner.