

## Chapter 12

# Domestic Resource Mobilisation in the LDCs: Trends, Determinants and Challenges

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### 12.1 Introduction

Domestic resource mobilisation, broadly, refers to creation of savings from domestic sources and dynamically channelling these resources towards productive investments. It is maintained that the level of domestic resource mobilisation parallels the process of structural transformation of the economies of the least developed countries (LDCs).<sup>2</sup> It is the case that LDCs' domestic resources are inadequate not only for investment, but also for national governance (UNCTAD 2010). The Istanbul Programme of Action (IPoA) lays stress on structural transformation with an aim to reduce acute poverty in the LDCs. Notwithstanding the commendable growth of gross domestic product (GDP) until the advent of the global economic and financial crisis in 2008, LDCs have continued to remain abjectly dependent on foreign savings coupled with limited capacity to mobilise domestic resources for productive investments (UNCTAD 2011). High reliance on external financial resources has limited the policy options for LDCs. The current state of domestic resource mobilisation in the LDCs is yet to shift accountability back to their citizens from their external benefactors, impeding creation of a more stable and legitimate state in the process (UN-OHRLLS 2010). Recent experience of the global economic crisis has revealed that steady domestic resource mobilisation can facilitate a reduction of vulnerability arising from volatile external income (UNCTAD 2007). Issues related to domestic resource mobilisation are also currently being revisited as a number of LDCs with a low tax/GDP ratio are recommended for graduation from the group.<sup>3</sup>

Domestic resource mobilisation has been historically a daunting task for the LDC economies, which are characterised by a low level of per capita GDP and a modest savings rate as well as a narrow tax base along with weak institutions. The average tax/GDP ratio for the LDCs as a group (average for 16 countries)<sup>4</sup> during the period 2000–10 was approximately 10 per cent, which compares unfavourably with the world average for the analogous period (14.69 per cent). The tax/GDP ratio in the LDCs was also lower than that of the lower middle-income countries (12.90 per cent), while being marginally less than that of the low-income countries group (10.79 per cent) during the same period. Thus, it may be safely assumed that for the LDCs to move to a higher income group they would need to raise their domestic savings ratio.

The Brussels Programme of Action (BPoA) and later the IPoA stressed the need to address the factors affecting domestic resource mobilisation in the LDCs

(UN-OHRLLS 2006; United Nations 2011). The IPoA emphasises that ‘there is a need for the LDCs to make substantial effort to effectively mobilize domestic resources, build up financial infrastructure and capacities and put in place regulatory measures and institutions’ (United Nations 2011: 36). What remains to be observed is how efficiently the LDCs can meet their multiple development finance requirements, particularly through generation of domestic savings and tax revenue in line with the guidance provided in the IPoA.

### 12.1.1 The Istanbul Programme of Action

Goals and targets in the area of domestic resource mobilisation occupy a place of special significance in the IPoA. The following two specific goals were set out in the IPoA with regard to domestic resource mobilisation:<sup>5</sup>

- (i) Enhance the mobilisation of domestic resources, including by raising domestic savings, increasing tax revenue and strengthening institutional capacity, and
- (ii) Reduce corruption and increase transparency in all areas (of the bureaucratic system).

As IPoA did not provide any empirical targets in the area of domestic resource mobilisation, the present chapter suggests a number of possible indicators to capture the two specific goals mentioned above. Indicators related to concrete actions envisaged by IPoA regarding the LDC governments have been developed and presented in Annex 12.1, and those for the development partners in Annex 12.2.

### 12.1.2 Design of the chapter

The major objective of the chapter is to assess the trends in savings and domestic resource mobilisation in the LDCs in the light of the IPoA goals and targets. The focus of the analysis (data permitting) is on the recent past, and particularly since the adoption of the IPoA. In this respect, the chapter seeks to analyse indicators mentioned in Annexes 12.1 and 12.2, so as to trace the progress on implementation of IPoA. Note that this chapter is about domestic resource generation and not utilisation, apart from the issues of public expenditure that affect the mobilisation process (e.g. the issues of tax morale and fiscal legitimacy). It also draws on an econometric analysis to generate policy perspectives on the factors facilitating and/or impeding revenue collection in LDCs. The chapter also explores a pertinent issue affecting tax collection in the LDCs, namely illegal outflow of financial resources.

To serve as a purpose of the chapter, a database was created drawing on the World Development Indicator (WDI) series of the World Bank (2013). While availability of data on LDCs in general is always a challenge, it is more so for tax-related information.<sup>6</sup> The state of data availability also varies across regions, namely Asia and Africa. Moreover, unavailability of up-to-date data has often constrained the present study. In this context, the analysis has addressed the period 2000–2010; information on 2011 has been included wherever data were available. Taking note of the trends in LDC economies, the study uses the global financial crisis period as the benchmark and thus compares the figures for 2006–08 with those of 2009–10. The chosen

benchmark is all the more convenient in that most of the pre-IPoA documents have used 2008 as the terminal year of their analysis. In any case, the present exercise also attempts to generate a regional perspective in terms of the Asian and African LDCs.

The rest of the chapter is organised as follows. To consolidate our understanding of domestic resource mobilisation in the LDCs in the concerned area, Section 12.2 reviews the literature and highlights certain characteristics of LDCs. Section 12.3 presents an analysis of the trends in the savings rate, while the following section (12.4) reviews the trends in LDCs in terms of revenue collection, compositional changes of the revenue intake and related aspects. Section 12.5 concludes by deriving policy perspectives based on the findings of the present study as well as in light of the guidance provided in the IPoA.

## 12.2 The dynamics of domestic resource mobilisation

Culpeper (2008) defines domestic resource mobilisation as ‘the generation of savings from domestic resources and their allocation to socially productive investments’. This objective of domestic resource mobilisation remains unfulfilled in the LDCs due to a host of structural reasons as well as policy and institutional shortcomings. LDCs’ domestic resource mobilisation issue is more than that of their unified low-income setback. Many LDCs subsist at the same level of income with varying levels of tax/GDP ratio due to other factors such as difference in institutional capacity to collect taxes. Researchers and analysts have often disagreed on the relative importance of specific factors impeding or promoting domestic resource mobilisation in developing countries in general, and in LDCs in particular. While there is a large body of literature on domestic resource mobilisation in developing countries, there are very few studies specifically addressing this set of issues in the context of LDCs. Arguably, irrespective of the level of development of an economy, domestic resource mobilisation is recognised as one of the founding pillars of self-sustaining development. Hence, mobilisation of domestic resources is essential for the eradication of poverty and economic growth (Wangwe and Charle 2004). In the following paragraphs, an attempt has been made to structure a set of issues concerning tax efforts in LDCs in order to provide context to our empirical analysis.

Savings in LDCs are generally low due to the heightened level of poverty. However, there is hardly any study to empirically establish the link of domestic savings rate to that of revenue collection in the LDCs. The Commission on Growth and Development (2008) stated that ‘there is no case of a high investment path not backed up by high domestic savings’, in an analysis of 13 high-income countries. Furthermore, savings in the LDCs, which in themselves are meagre in magnitude, cannot be often channelled into productive investment because of severe administrative constraints (Culpeper and Bhushan 2008). However, our analysis suggests, without implying any causality, that shares of domestic savings and revenue collection in the GDP of the LDC economies usually move in the same direction.<sup>7</sup>

Low revenue generation in the LDCs has often been explained by their low level of per capita income and prevalence of widespread poverty. Less than 5 per cent of

citizens pay income tax in low-income countries, compared with 50 per cent in the developed countries (IMF 2011: 31). The prospect for collection of direct taxes in the LDCs is circumscribed by the modest level of wages and profits. But, as others have pointed out, this reflects both the administrative and political weaknesses inclusive of a narrow taxpayer base, poor administrative capacity, exemptions and exclusions (Fjeldstad 2013). Mobilisation of indirect taxes is constrained by the low amount of disposable income and savings. Income tax, on average, accounts for less than 10 per cent of overall tax revenue in the low-income countries, while the figure stands at more than 25 per cent in the Organisation for Economic Co-operation and Development (OECD) countries (Keen 2012). In the LDCs, scope for imposing taxes on government-held assets and facilities is quite limited, and taxes on transactions of assets and services are quite low.<sup>8</sup> Furthermore, raising non-tax revenue in the LDCs has been equally challenging.

Corruption has been affirmed as an impending factor for domestic resource mobilisation by many analysts, including Ghura (1998) and Gupta (2007). In the same vein, Bird et al. (2011) identify a reduction of corruption and improvement of the societal institutions with a 'more legitimate and responsive government' as one of the main responsible factors for promoting domestic resource mobilisation. Conversely, Pessino and Fenochietto (2010) conclude that corruption is a non-significant indicator of tax revenue generation in an analysis of 96 countries. On the other hand, illicit financial flows as a proxy for corruption pose a full-size setback for the LDCs in the form of lost investment opportunities, and consequently loss of potential revenue.

One of the major determinants of low tax revenue generation is the low tax morale in the LDCs. Corruption, poor governance and low tax morale are highly correlated in the developing countries. According to the joint report by the IMF et al. (2011), corruption is associated with lower revenue generation in comparison with other governance indicators such as the rule of law and political instability. The report states that 'causation can run both ways, but the centrality of tax collection as an exercise of state power gives addressing governance issues in tax collection wider importance' (IMF et al. 2011: 11). One could ponder at this point whether a citizen should pay for services that are not provided by the government in reality. Daude and Melguizo (2010) find that citizens in Latin America are three times as likely to justify tax evasion than citizens of the OECD countries. This is because the relationship of citizens with the government is not only a matter of coercion, but also a matter of trust. Torgler (2005) identifies tax burden, lack of honesty and corruption as the reasons for low tax morale in the Latin American region.

A related issue in this connection is that low fiscal legitimacy affects domestic resource mobilisation in the LDCs. Often inefficient utilisation of official development assistance (ODA), high levels of budget deficit and unplanned public expenditure erode fiscal legitimacy in these countries. As the taxpayers are not convinced that money from the taxes would be well spent to their own benefit, fiscal legitimacy will continue to remain low. Santiso and Zoido (2010) studied Latin American countries to find that low fiscal performance and weak democratic governance hinder taxpayers'

trust and confidence greatly. It was further stated that the fiscal system, with non-performing public expenditures and poor democratic legitimacy in these countries, suffers heavily when taxation fails to bridge the gap between the rich and the poor.

It is regularly argued that the developing countries require structural change for achieving inclusive and sustainable development. Ghura (1998) concluded that economic policies play a significant role in sub-Saharan African countries, while, on the other hand, Lin (2012) observed that countries that have been historically poor failed to achieve structural transformation as they were unsuccessful in diversifying away from primary goods, mainly agriculture, into contemporary manufacturing and tertiary activities. Accordingly, opportunity for tax collection is closely linked to an economy's transition from predominantly (subsistence) agricultural to market-oriented non-agricultural activities. In other words, the potential for tax collection increases significantly with the expansion of a formal manufacturing sector and a high-value services sector in the LDC economies. What follows from our discussion is that agriculture is extremely difficult to tax, for a host of reasons.

LDCs face a huge financing gap in their public expenditures due to a lack of satisfactory tax revenue generation. Domestic resource mobilisation has often been considered a 'hard option' for the African nations (Aryeetey 2004). Shortfall in revenue in the face of expanding public expenditures has made the LDCs resort to ODA and other external sources of finance. Thus, it is also contended that easy availability of foreign aid has often diluted the incentives of the LDCs to make stronger efforts to mobilise domestic revenue resources. Thus ODA has been often considered a substitute for domestic taxes in the LDCs (Ghura 1998; Remmer 2004; Gupta et al. 2004), i.e. the 'easier option'.

In this context, slowdown in aid inflow coupled with low utilisation of disbursed aid has left the LDCs with the worst of both worlds – low aid flows and low domestic resource mobilisation. However, one observes in this regard that recently there have been efforts, albeit marginal, to use overseas technical assistance to strengthen national institutional capacity to generate domestic resource.<sup>9</sup>

Financial intermediaries have a major role to play in assembling domestic resources and putting them to productive uses. Weak financial intermediation in the LDCs constrains a firm's productive investment and may manifest in a large amount of excess liquidity in the banking sector, a high lending rate and preference for short-term, risk-free government securities. This is because the channelling mechanisms in LDCs are usually underdeveloped, together with the financial institutions having very high fixed costs and concentrating in the urban areas only. Wangwe and Charle (2004) pointed out that effective financial intermediation would be able to channel the financial resources to productive investment, mobilising domestic resources to pass from economic agents with 'surplus' resources to agents with 'deficit'. It may be recalled that a number of micro-finance institutions in the LDCs, in recent decades, have been allowed to accept savings along with disbursement of loans to small entrepreneurs and household-based activities. Arguably, such institutions do create employment opportunities, but proper regulation of such institutions is important, in order to keep the costs of intermediation at a minimum so as to facilitate mobilisation

of domestic resources. Moreover, domestic savings in low-income countries often take the form of non-financial assets such as livestock, grains and similar goods in the rural areas (Culpeper and Bhushan 2008). Hence, it becomes even more difficult to collect taxes on these assets and their income flow.

A stable financial structure is critical for sustainable growth, without which enhanced savings channelled into productive investment would be ineffective (Sheng and Cho 2002). Interventions by the government in the financial markets of the LDCs, especially in the African LDCs, have exacerbated distortions. However, it is also not quite evident that higher interest can induce greater savings in the LDCs. Thus, efficient financial systems coupled with stronger governance to reduce capital flight would act as the most promising avenue for the availability of domestic resources in the local economy and their effective utilisation towards sustainable growth (Kapoor n.d.).

Macro-prudential and systemic risks play a major role in maintaining financial stability. Although there exists other risks pertaining to specific economies, systemic and prudential risks can be related to almost all the economies as regards stability of the financial sector. Arnold et al. (2012) stated that the identification of systemic risk together with the factors driving the risk is mandatory for achieving macroeconomic stability. An efficient supervisory and regulatory framework would be effective in detecting and managing the risk.

In the search for factors affecting domestic resource mobilisation in the LDCs, Piancastelli (2001) found trade openness to be one of the most pertinent variables underpinning the process of tax collection. Ghura (1998), Begum (2007) and Pessino and Fenochietto (2010) found reduction of import duties to be a significant contributing factor to loss of revenue by the LDCs. However, it is often argued that the total intake from external trade did not fall in real and relative terms as the countries made it up on an enhanced volume of imports, which swelled following trade liberalisation.

With liberalisation of the trade regime and the consequent shortfall in trade taxes, a number of LDCs have either established or enhanced value-added tax (VAT) to compensate for the underperformance of trade taxes. However, questions have been raised about the distributional impact of VAT. Attempts to improve the share of direct taxes (including income taxes) in total revenue often get thwarted, as the LDCs are usually plagued with a poor system of personal tax collection (Gupta 2007). Thus Gemmell (1988) found tax systems in LDCs to exert a greater emphasis on indirect taxes rather than focusing on direct income taxes. It will be a matter of interest to explore the recent trends in the changing composition of the revenue intake in LDCs in our present exercise.

Most low-income countries, especially LDCs, are handicapped with regard to supply capacity because of the lack of skilled human resources together with weak physical infrastructure. The presence of a large informal economy (not necessarily illegal), operating outside the reach of law and other public administration, is considered to be a major obstacle to broadening the tax base and raising taxes in the LDCs

(UN-OHRLLS 2010; Kayaga 2007; ODI and ITAD n.d.). Indeed, rigidity of tax collection from low-income agrarian households is most prominent in the less developed countries (OECD 2010). The informal sector in the LDCs is characterised by absence of sound book-keeping practices, which creates a serious problem for tax assessment. Integration of the informal sector into the mainstream economy of the LDCs would bring a large number of small and medium enterprises under the tax net, and as such may create an opportunity to deliver public policy supports towards them. As a potential solution, in many LDCs, 'turn over tax' or 'capacity tax' is imposed on small and micro enterprises at a flat rate, taking note of their capitalised value or volume of sales. These approaches would also fit in with the efforts to reduce exemptions and to bring more economic activities under tax coverage, and consequently will help to keep the tax rate lower.

Given the below-commitment inflow of ODA to LDCs, questions are being raised about the adequacy of finance for achieving the Millennium Development Goals (MDGs) in this group of countries. Thus, it is contended whether domestic resource mobilisation, achieved through enhanced tax revenue collection, would be the most sustainable and dependable source of funding towards the attainment of the targeted goals (Stijns et al. 2012). The Monterrey Consensus (United Nations 2003) on domestic tax revenue has to emerge as an important component for finance for development, beyond ODA. Indeed, issues related to domestic resource mobilisation are increasingly gaining prominence in the ongoing debates on the post-2015 international development goals.

A greater emphasis on domestic resource mobilisation is also linked to addressing the challenge of debt sustainability, which is a roadblock on the way to economic development in the LDCs (Gupta 2007). The experience of the global financial crisis has made domestic resource mobilisation even more imperative for LDCs. Keeping in view the challenges which are inherent in the LDCs, domestic resource mobilisation appears to be a singularly important strategy under which the LDCs can prosper in the long run.

Finally, the taxation measures and procedures should not be employed and/or amended too frequently and fervently to the extent that they become an ineffective and blunt policy instrument. However, predictability of tax measures is an issue in the LDCs. Ideally, there should be 'simple, predictable, neutral tax systems that will not discourage private enterprise and minimize interference with market signals' (Fjeldstad and Moore 2007: 1). Additionally, improvement of the investment climate and good governance promotion would facilitate domestic resource mobilisation to a great extent (Pfister 2009). It goes without saying that taxation and savings are not only the administrative assignment of respective governments, but also an exercise in power, politics and authority – especially in the LDCs.

### 12.3 Recent trends in savings rate in the LDCs

As mentioned earlier, the level of savings in a country largely signals its potential for domestic resource mobilisation. Table 12.1 presents the share of gross domestic

savings<sup>10</sup> and gross national savings<sup>11</sup> (as percentages of GDP) of the LDCs for different periods of the last decade, that is 2000–11.<sup>12</sup>

Table 12.1 shows that the gross domestic savings rate (as a percentage of GDP) of the LDCs as a group for the period 2001–10 were 12.73 per cent of GDP. A closer look at the indicator suggests that, during the global economic crisis period (2006–08), it was marginally higher (13.27 per cent) and remained relatively stagnant at 12.36 per cent of GDP in 2009–10. Data for 2011 show that the ratio increased handsomely to 13.13 per cent, largely driven by African LDCs. Indeed, African LDCs<sup>13</sup> had a higher average gross domestic savings rate (17.6 per cent) in the 2000–10 timeframe (which is clearly influenced by the presence of natural resource rent in several countries) than overall LDCs. However, the even healthier domestic savings rate of 24.3 per cent in the 2006–08 period was not resistant to the global shock and decreased to 18.54 per cent in 2009–10. Following the overall LDC trend, the African LDCs also experienced a significant increase in domestic savings in 2011, recording an average of 22 per cent of GDP.

Regarding Asian LDCs, it can be observed that the average domestic savings rate of these LDCs was 14.11 per cent of GDP in 2000–10, lower than the African LDCs but higher than LDCs as a whole. In the face of global financial crisis, the Asian LDCs also experienced a declining savings rate – from 12.63 per cent in 2006–08 to 11.06 per cent in 2009–10 – but this was lesser in magnitude than their African counterparts. However, the Asian LDCs attained an improved domestic savings rate of 11.39 per cent in 2011, which is still lower than the pre-crisis benchmark. What is noteworthy is that gross domestic savings in the Asian LDCs were much healthier in the 2000–05 timeframe in comparison with 2006–10.

**Table 12.1 Domestic savings trends in the LDCs**

Year	Gross domestic savings (% of GDP)			
	LDCs <sup>a</sup>	LDCs: Africa <sup>b</sup> ( <i>n</i> = 28)	LDCs: Asia <sup>c</sup> ( <i>n</i> = 7)	LDCs: islands <sup>d</sup> ( <i>n</i> = 3)
Average 2000–10	12.73	17.60	14.11	N/A
Average 2006–08	13.27	24.30	12.63	–6.15
Average 2009–10	12.36	18.54	11.06	N/A
2011	13.13	22.00	11.39	N/A

**Note:** \*Gross savings are calculated as gross national income less total consumption plus net transfers.

<sup>a</sup> LDCs include 33 African LDCs (including Haiti), 8 Asian LDCs and 8 island LDCs.

<sup>b</sup> African LDCs include Angola, Benin, Burundi, Central African Republic, Chad, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Rwanda, Senegal, Sierra Leone, Sudan, Togo, Uganda, United Republic of Tanzania and Zambia. For the analysis in this paper Haiti is included in the African LDCs group (*n* = 28).

<sup>c</sup> Asian LDCs include Afghanistan, Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic, Nepal and Yemen (*n* = 7).

<sup>d</sup> Island LDCs include Comoros, Solomon Islands, Vanuatu (*n* = 3).

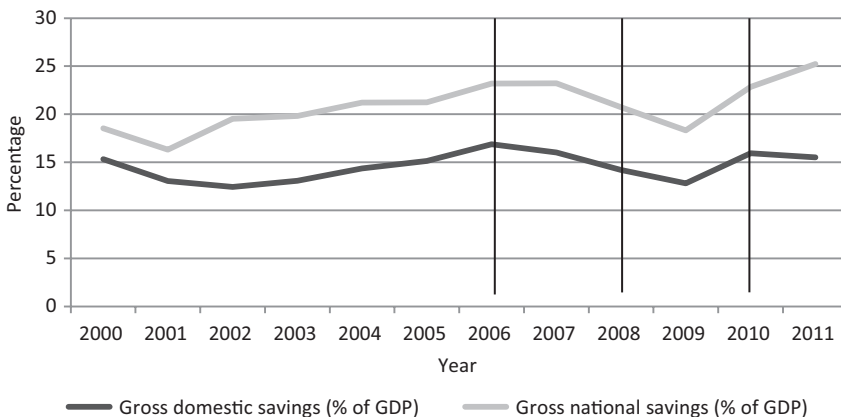
**Source:** World Development Indicators, World Bank (2013)

The trends described above prompt us to draw the following inferences. First, LDCs as a group, as well as their regional components, experienced a fall in the domestic savings rate following the global financial and economic crisis. Second, this fall has been more pronounced in the African LDCs, largely because of their greater fall in growth and exports in comparison with the Asian LDCs.<sup>14</sup> Third, the LDCs, as well as their regional components, began showing signs of recovery in 2011 in terms of savings rate. However, this recovery is yet to recapture the pre-crisis mark. Figure 12.1 captures the trends of gross domestic savings and national savings (as percentages of GDP) in the LDCs during 2000–11 as a graphical representation, which ascertains the observations made beforehand (the following section discusses national savings).

Table 12.2 also reports trends in gross national savings of the LDCs as a percentage of GDP. LDCs as a group had an average national savings rate of 22.14 per cent during 2000–10. This indicator experienced an increase to 24.19 per cent of GDP in the 2006–08 period, increasing further to 24.46 per cent of GDP in 2009–10. The reason behind the upward movement of the national savings rate in the LDCs in the post-crisis period relates to a robust flow of remittances during the economic global crisis period and thereafter. Remittance flow to the LDCs only experienced a modest dip in 2009, recovering to more than the pre-crisis levels afterwards. It was estimated that remittances would grow by 6.5 per cent in 2012 and by 8 per cent in 2013 (World Bank 2012). Hence, the upward trend of the national savings rate can be expected to grow in the LDCs in the near future notwithstanding the relatively depressed state of the domestic savings rate (UNCTAD 2012).

Incidentally, during 2000–10 the African LDCs' national savings had been an average of 16.91 per cent of their GDP, decreasing to 16.5 per cent of GDP during 2009–10. Given their lower access to global remittance earnings, the national savings rate of the African LDCs had been more in line with the movement of domestic savings rate of these countries, and increased to 20.42 in 2011.

**Figure 12.1 Savings trend in the LDCs (2000–11)**



**Source:** Authors' calculation, based on World Development Indicators, World Bank (2013)

**Table 12.2 Gross national savings trend in the LDCs**

Year	Gross national savings* (% of GDP)			
	LDCs <sup>a</sup>	LDCs: Africa <sup>b</sup> ( <i>n</i> = 23)	LDCs: Asia <sup>c</sup> ( <i>n</i> = 5)	LDCs: islands <sup>d</sup> ( <i>n</i> = 2)
Average 2000–10	22.14	16.91	27.71	N/A
Average 2006–08	24.19	20.89	28.89	N/A
Average 2009–10	24.46	16.50	29.61	N/A
2011	25.22	20.42	32.96	N/A

**Note:** \*Gross savings are calculated as gross national income less total consumption plus net transfers.

<sup>a</sup> LDCs include 33 African LDCs (including Haiti), 8 Asian LDCs and 8 island LDCs.

<sup>b</sup> African LDCs include Angola, Benin, Burkina Faso, Burundi, Djibouti, Ethiopia, Gambia, Guinea, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Rwanda, Senegal, Sierra Leone, Sudan, Togo, Uganda, United Republic of Tanzania and Zambia. For the analysis in this paper Haiti is included in the African LDCs group (*n* = 23).

<sup>c</sup> Asian LDCs include Bangladesh, Cambodia, Lao People's Democratic Republic, Nepal and Yemen (*n* = 5).

<sup>d</sup> Island LDCs include Solomon Islands, Vanuatu (*n* = 2).

**Source:** World Development Indicators, World Bank (2013)

On the other hand, the Asian LDCs showed a persistent increase of their national savings rate throughout the whole of the last decade due to an impressive inflow of remittance earning.<sup>15</sup> While Asian LDCs lagged behind the African LDCs in the case of the gross domestic rate of savings, they surpassed their regional counterpart in the case of national savings rate due to their better access to the global services market. However, both sub-groups of LDCs have recaptured their pre-crisis benchmark in the case of national savings rate, though this is not true for their domestic savings rate.

Illegal capital outflow constitutes a major constraint in the arena of mobilising domestic savings and taxes in the LDCs. The issue of illicit financial flows has been discussed in Box 12.1. Transfer pricing poses a similar vexing problem for the LDC governments. Transfer pricing usually refers to value addition to the transfer of goods and services between parent and subsidiary entities (Irish 1986); the LDCs face the difficulty to a greater degree than the developed countries. LDCs are not equipped to deal with the issue of transfer pricing because of their inadequate laws and regulations. Even if an LDC was to develop a framework for monitoring transfer pricing, lack of administrative capacity would hinder the ability of the economy to refrain from illegal transfer pricing activities (McLure 2006).

## 12.4 Trends in revenue generation<sup>16</sup>

Tax revenue as a share of GDP of LDCs as a group during 2000–10 was 10.18 per cent (Table 12.3). The indicator marginally improved to 10.75 per cent in

### **Box 12.1 Illicit financial flows from the LDCs**

The second goal relating to domestic revenue mobilisation mentioned under Priority Area G in the IPoA calls for reduction of corruption and increase of transparency in order to reduce the illicit capital flows from LDCs. This may be considered as a case in point in this regard.

It is traditionally assumed that capital would flow from a region which has abundant capital to a region which is capital poor. This would generally mean that capital would be flowing from the financially stable developed countries to the less-developed poorer nations. However, historically, there have been a significant number of reverse cases, when one considers natural wealth as a key component of the national capital of a country. In some LDCs, illegal financial outflows arising from transfer pricing are estimated to outpace ODA inflow (Kar 2011; Rahman et al. 2011).

Kar (2011) classified illicit financial flows into three broad categories: macroeconomic, structural and governance related. The macroeconomic issues arise as a result of unmanageable fiscal deficits, inflationary phenomena and overvaluation of the exchange rate. Structural issues contributing to the financial capital outflow include worsening of income inequality, rapid but non-inclusive economic growth, and emergent trade (Rahman et al. 2011). Lastly, the weak state of governance offers the people the opportunity and impetus to evade taxes on their income and/or profits.

Capital flight, in any case, deprives the local economy of a considerable portion of the resources that would otherwise have been employed for development financing. Thus, capital flight undermines domestic investment, ultimately hindering long-term growth. Some of the LDCs, especially those in Africa with very low savings rates, continue to experience massive capital flight. Empirical evidence indicating that sub-Saharan Africa is a 'net creditor' to the rest of the world is quite compelling; the assets held by Africans abroad exceed the liabilities of the Africans to the rest of the world (Boyce and Ndikumana 2001).

UNDP (2011) estimated that illicit financial flows from the LDCs increased from USD 9.7 billion to USD 26.3 billion between 1990 and 2008, recording an inflation-adjusted annual increase of 6.3 per cent. The top ten countries (Bangladesh, Angola, Lesotho, Chad, Yemen, Nepal, Uganda, Myanmar, Ethiopia and Zambia) with respect to capital outflow accounted for 63 per cent of capital outflow from the LDCs, while the top 20 accounted for nearly 83 per cent.

Table 12.B1 gives an indication of the intensity of illicit financial flows from LDCs as a percentage of GDP, exports and taxes in the LDCs. Calculations done for the present chapter are based on numbers reported in Kar and Freitas (2012). Results indicate that illicit financial flows from the LDCs increased from 4.02 per cent of GDP in 2001 to 5.66 per cent of GDP in

*(continued)*

(continued)

2010. The overall upward trend is visible, although with some exceptions in 2003, 2004 and 2009. On the other hand, illicit financial flows as a percentage of exports have oscillated from year to year, not giving a clear insight (it may be possible that illicit flows are correlated with commodity prices, and therefore with primary exports). However, it is the case that the ratio has fluctuated between 12 per cent and 18 per cent of exports, which is itself an alarming figure. Considering about one-third of LDCs for the tax percentage calculation, data unavailability becomes prominent when bringing tax into consideration. It can be observed that illicit financial flows as percentage of taxes maintained a steady pattern from 2001 to 2004, increasing in 2005 and 2006, returning to the former pattern in 2007–09, before reaching a staggering 83 per cent in 2010.

**Table 12.B1 Illicit financial flows from LDCs in 2001–10**

Indicator	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Illicit financial flows as a percentage of GDP <sup>a</sup>	4.02	4.76	4.00	3.61	4.18	4.24	4.54	5.60	4.96	5.66
Illicit financial flows as a percentage of exports <sup>b</sup>	18.30	20.67	16.04	13.01	12.96	12.47	12.77	15.71	18.23	18.30
Illicit financial flows as a percentage of tax <sup>c</sup>	48.07	46.69	42.62	44.65	52.00	57.19	47.71	36.06	44.42	83.02 <sup>d</sup>

<sup>a</sup> 40 LDCs have been considered.

<sup>b</sup> 38 LDCs have been considered.

<sup>c</sup> 15 LDCs have been considered.

<sup>d</sup> Outliers are Ethiopia, Cambodia and Nepal.

**Source:** Calculated from Kar and Freitas (2012)

2006–08, but stagnated at 10.66 per cent in 2009–10. The inability of LDCs to enhance their revenue/GDP ratio may be attributed to the global financial and economic crisis.

Looking at the regional level data, it may be observed that the African LDCs are better performers than their Asian counterparts in terms of tax collection. Average revenue intake of the African LDCs had been 12.1 per cent of GDP during 2000–10, while that of the Asian LDCs stood at 8.57 per cent over the same time period (note that none of the oil-exporting LDCs has been considered in the sample).<sup>17</sup>

**Table 12.3 Trends in tax revenue generation in the LDCs<sup>a</sup>**

Year	Tax revenue <sup>b</sup> (% of GDP)		
	LDCs <sup>c</sup> ( <i>n</i> = 16)	LDCs: Africa <sup>d</sup> ( <i>n</i> = 11)	LDCs: Asia <sup>e</sup> ( <i>n</i> = 5)
Average 2000–10	10.18	12.10	8.57
Average 2006–08	10.75	12.93	8.74
Average 2009–10	10.66	12.08	9.54

**Note:** Island LDC data are not available.

- <sup>a</sup> Limited information was available on tax revenue for 2011 at the time of the preparation of this report. Nevertheless, the tax revenue percentage for the available countries indicates mixed responses regarding achieving the IPoA goals. Enhancement of the tax ratio was experienced by Burkina Faso, Ethiopia, Sierra Leone, Togo, Uganda, Bangladesh and Lao People's Democratic Republic (representing approximately 50 per cent of the current sample and 28 per cent of overall LDCs' GDP). Hence, a concrete conclusion regarding progression of the tax indicators for LDCs in the years following the IPoA has remained beyond the scope of the current study.
- <sup>b</sup> Tax revenue as a percentage of GDP refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties and most social security contributions are excluded.
- <sup>c</sup> LDCs include the African (11 countries mentioned below) and the Asian LDCs (5 countries).
- <sup>d</sup> African LDCs include Benin Burkina Faso, Democratic Republic of the Congo, Ethiopia, Lesotho, Madagascar, Mali, Sierra Leone, Togo, Uganda and Zambia (*n* = 11).
- <sup>e</sup> Asian LDCs include Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic and Nepal (*n* = 5).

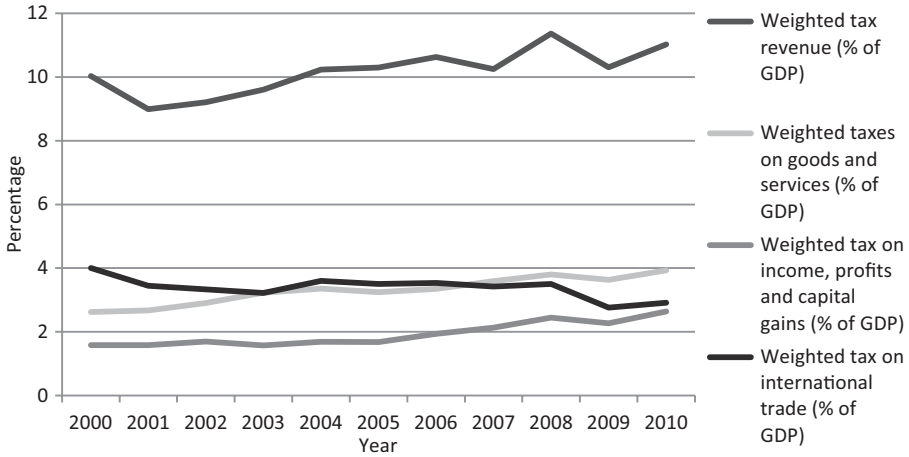
**Source:** World Development Indicators, World Bank (2013)

The revenue/GDP ratio of the African LDCs increased to 12.93 per cent in 2006–08; the corresponding figure for the Asian LDCs was 8.74 per cent, which was close to the decade average. Nevertheless, the African LDCs<sup>18</sup> were affected to a greater extent by the impact of the financial crisis (and the slump in oil prices that took place in the summer of 2008) as the extent of decrease of the ratio was more, notwithstanding its higher level. Curiously, the tax/GDP ratio of the Asian LDCs was not so much affected by the financial crisis (supporting the hypothesis of fewer oil-exporting countries) as the indicator depicted a gradual increase from 8.74 per cent in 2006–08 to 9.54 per cent in 2009–10, with Lao People's Democratic Republic and Nepal being the more robust performers. One of the reasons for the outsized decline in tax revenue generation in the African LDCs can be explained by the fact that a number of the African LDCs are oil exporters, and the price of oil declined significantly during the financial crisis. Thus, in contrast to the African oil-exporting LDCs (e.g. Angola, Chad, Equatorial Guinea and Sudan), Lesotho, Benin and Zambia were the top tax-revenue grossing countries in the region (although Zambia is a mineral-exporting country).<sup>19</sup> It needs also to be pointed out that both groups of LDCs have been very slowly recovering their lost benchmark of 2006–08 (Figure 12.2 further supports this finding).

#### 12.4.1 Revenue structure

To assess the achievements of the LDCs in terms of their revenue collection, it is important to analyse not only the aggregate level data but also the composition of the

**Figure 12.2 Tax revenue trend of the LDCs**



**Note:** Tax revenue is inclusive of other tax categories that are not mentioned in the figure.

**Source:** Authors' calculation, based on World Development Indicators, World Bank (2013)

revenue intake. Table 12.4 presents the changing structure of the collected taxes in the LDCs in three broad categories: (i) tax on goods and services; (ii) tax on income, profit and gains; and (iii) tax on international trade. Table 12.3 broadly depicts that, while tax on goods and services as a percentage of GDP by and large is holding steady across the LDCs, tax on international trade is decreasing and tax on income, profit and capital gains is increasing. The increasing trend of taxes on income, profits and capital gains reflects a positive indication of the LDCs being able to capture some of the increased resource rents. These trends may be essentially considered as positive changes in revenue composition of the LDCs.

Tax on goods and services (as a percentage of GDP) improved steadily in the LDCs during the period 2000–10, with an average of 3.31 per cent. Table 12.4 shows that there is not much to differentiate between the periods 2006–08 (3.58 per cent) and 2009–10 (3.78 per cent). However, the LDCs experienced a decline in 2009, which can be mainly attributed to the performance of the African LDCs (see Annex 12.6). Indeed, decline in international prices of commodities and the resultant overall performance of the African LDCs contributed towards such a tax performance. Despite the African LDCs' contribution in lowering the overall ratio, both regional components recorded similar movement in terms of their respective share of tax on goods and services in GDP across the three periods identified in Table 12.4. Nevertheless, while the African LDCs kept at a stable level, that is 3.87 per cent of GDP (2006–08) and 3.89 per cent (2009–10), the Asian LDCs marginally improved the relevant indicator from 3.32 per cent of GDP (2006–08) to 3.70 per cent of GDP (2009–10).

A low level of revenue mobilisation from income, profit and capital gains is a common weakness of the tax structure of the LDCs. Table 12.3 lists LDCs' tax on income, profits and capital gains (as a percentage of GDP). Overall direct tax collection from different sources in the LDCs improved by one percentage point during the last

**Table 12.4 Changing composition of taxes in the LDCs**

<b>Tax on goods and services<sup>a</sup> (% of GDP)</b>			
<b>Year</b>	<b>LDCs<sup>d</sup> (n = 16)</b>	<b>LDCs:<sup>d</sup> Africa (n = 11)</b>	<b>LDCs:<sup>d</sup> Asia (n = 5)</b>
Average 2000–10	3.31	3.55	3.14
Average 2006–08	3.58	3.87	3.32
Average 2009–10	3.78	3.89	3.70
<b>Tax on income, profits and capital gains<sup>b</sup> (% of GDP)</b>			
<b>Year</b>	<b>LDCs (n = 15)</b>	<b>LDCs: Africa (n = 11)</b>	<b>LDCs: Asia (n = 4)</b>
Average 2000–10	1.93	2.45	1.53
Average 2006–08	2.17	2.69	1.68
Average 2009–10	2.45	2.88	2.10
<b>Tax on international trade<sup>c</sup> (% of GDP)</b>			
<b>Year</b>	<b>LDCs (n = 15)</b>	<b>LDCs: Africa (n = 11)</b>	<b>LDCs: Asia (n = 4)</b>
Average 2000–10	3.39	3.82	2.93
Average 2006–08	3.49	4.11	2.89
Average 2009–10	2.84	2.95	2.75

**Note:** Island LDC data are not available.

<sup>a</sup> Taxes on goods and services include general sales and turnover or VAT, selective excises on goods, selective taxes on services, taxes on the use of goods or property, taxes on extraction and production of minerals, and profits of fiscal monopolies.

<sup>b</sup> Taxes on income, profits and capital gains are levied on the actual or presumptive net income of individuals, on the profits of corporations and enterprises, and on capital gains, whether realised or not, on land, securities and other assets.

<sup>c</sup> Taxes on international trade include import duties, export duties, profits of export or import monopolies, exchange profits and exchange taxes.

<sup>d</sup> Sample countries are similar to those reported in Table 12.3.

**Source:** World Development Indicators, World Bank (2013)

decade, from 1.58 per cent in 2001 to 2.64 per cent in 2010, recording a decadal average of 1.93 per cent (2000–10). While the aforementioned improvement has been steady for the Asian LDCs, it had been rather volatile for the African LDCs (see Annex 12.7). However, the concerned share can be seen to have improved between 2006–08 and 2009–10 for the LDC group as a whole (2.17 per cent to 2.45 per cent), African LDCs (2.69 per cent to 2.88 per cent) and Asian LDCs (1.68 per cent to 2.10 per cent). Similar to the trend in collection of tax on goods and services, the African LDCs experienced a sharp decline in 2009. Nevertheless, income tax collection as a percentage of GDP for the African LDCs remained higher than that of their Asian counterparts. The LDCs as a group may not have experienced discernible progress in the recent past regarding tax collection, but the ratio remained stable and showed strong resilience in each successive year.

Table 12.4 also reports on tax on international trade (as a percentage of GDP). In contrast to the previously discussed two components displaying resilience and/or

recovery, taxes on international trade declined as a share of GDP for the LDCs as a group. With an average of 3.39 per cent for the period 2000–10, one may notice marginal improvements during 2006–08 (3.49 per cent of GDP), but the indicator of concern decreased during 2009–10 (2.84 per cent of GDP). This trend holds true for both regional components of the LDC group. However, given their dependence on primary commodity trade, the drop for African LDCs had been sharper between 2006–08 (4.11 per cent of GDP) and 2009–10 (2.95 per cent of GDP). Decline in relative dependence on international trade taxes may be considered as a welcome trend in the LDCs, but lower incremental growth in trade taxes also dampens the overall tax/GDP ratio.

In terms of data availability, 2010 was the most up-to-date year. Table 12.5 displays the ‘good’ and ‘below average’ performers of the LDCs in terms of tax revenue generation in 2010.

Impetus for tax reforms in the LDCs occurred in the recent past for a host of reasons. One of the primary motives had been to shift from dependence on external assistance to greater financing of development projects by domestically

**Table 12.5 Performance of LDCs<sup>a</sup> in the respective tax ratios in 2010**

Indicator	Good performers <sup>b</sup>		Below average performers	
	Africa	Asia	Africa	Asia
Tax revenue (% of GDP)	Benin, Democratic Republic of the Congo, Togo and Zambia	Lao PDR and Nepal	Ethiopia and Sierra Leone	Bangladesh
Tax on goods and services (% of revenue)	Benin, Burkina Faso, Mali, Togo and Uganda	Cambodia, Lao PDR and Nepal	Democratic Republic of the Congo and Ethiopia	
Tax on international trade (% of revenue)	Benin, Ethiopia and Togo	Bangladesh and Nepal	Burkina Faso, Mali, Uganda and Zambia	Lao PDR
Tax on income, profits and capital gains (% of revenue)	Sierra Leone, Uganda and Zambia	Bangladesh and Nepal	Democratic Republic of the Congo, Ethiopia and Togo	Cambodia

<sup>a</sup> The countries with available data are Benin, Burkina Faso, Democratic Republic of the Congo, Ethiopia, Sierra Leone, Togo, Uganda, Zambia, Bangladesh, Cambodia, Lao People’s Democratic Republic (PDR) and Nepal (out of the 18 countries which have been considered for analysis in Section 12.4 beforehand).

<sup>b</sup> Admittedly, for some countries, a high tax ratio may not necessarily denote ‘good’ performance as it may have little to do with domestic fiscal capacity. This is particularly true for African countries benefiting from regional revenue-sharing agreements.

**Source:** Based on data from World Development Indicators, World Bank (2013)

mobilised resources. Addressing a narrow tax base along with high incentive for tax evasion had been one of the main reasons for initiating tax reforms in the LDCs. Fear of high corruption in the government agencies and existence of widespread tax exemptions also led the LDCs into thinking of tax reforms for enhancing tax revenues. The recent global financial and economic crisis (affecting export industries, import duties, global commodity prices and the like) also created a new compulsion to collect taxes (Bhattacharya and Rahman 2009). It has been, for example, mentioned that domestic resource mobilisation in Tanzania was motivated by ‘widespread abuse of discretionary exemptions, a large informal sector and non-enforcement of property taxes’ (The North–South Institute 2010a: 1). Tax reforms in Uganda were ‘directed at rationalizing the tax structure and tax rates, widening the tax base, reducing exemptions and simplifying procedures’ (Matovu 2010).

LDCs have continued to undertake assorted reform measures in the recent past. Bangladesh, for example, adopted measures such as introduction of the ‘self-assessment system’ of personal income tax, use of electronic cash registers and broadening the ambit of the VAT. Other notable measures by the government include streamlining of the customs duty regime, widening the tax base through setting up National Board of Revenue (NBR) offices at the local level, increasing the exemption threshold limit for small and medium enterprises and lowering corporate tax for the financial institutions (Bhattacharya and Rahman 2009). In Tanzania major tax reforms included simplification of the customs tax structure, introduction of VAT and the promulgation of a new Income Tax Act (AfDB 2010). On the other hand, reforms of the tax administration, together with the introduction of VAT and income tax legislation, contributed to the increase in domestic revenue collections in Uganda. Ethiopia, in an effort to restrict capital flight, overhauled the tax system by creating a new agency and paying better remuneration to tax officials, introducing new taxes and tax identification numbers and making efficient use of technology (The North–South Institute 2010b).

AfDB (2011), pointing out the unfinished tax reform agenda in Ethiopia, suggested that the country would need to mobilise its domestic resources through the widening of the tax base, strengthening of the tax administration and financial sector reforms, together with initiation of other non-traditional sources of financing such as public–private partnership (PPP) and diaspora bonds.

## 12.5 Major messages and policy outlook

The low level of domestic resource mobilisation in LDCs is underpinned by a host of factors including low levels of income, poor financial intermediation, poor ‘tax morale’ and weak tax collection capacity. Most of these factors are difficult to influence in the medium term. Moreover, domestic savings, national (gross) savings and revenue collections all get affected by the prevailing global economic environment.

LDCs as a group have been brought together because of common structural disadvantages including low income, weak human assets and various economic

vulnerabilities, but they are also quite diverse in terms of their endowments. These diversities have important implications in terms of revenue collection. For example, mineral-exporting LDCs face different dynamics to LDCs that rely heavily on the agricultural sector. In any case, the fact remains that mobilisation of domestic resources is a universal objective that has to be energetically pursued by every LDC without exception. Mobilisation of domestic resources emerges as a common characteristic of the transition towards structural transformation of the LDC economies.

It goes without saying that a number of related issues have to be addressed in the LDCs, which would include strengthened property rights, removal of barriers to investment and creating an enabling regulatory framework. In this context, the IPoA rightly envisioned that the LDCs would need to improve their tax administration capacity and the social rate of return to their investments in order to improve the state of domestic resource mobilisation. Domestic savings have been identified in the IPoA as a prime requisite for investment, both public and private. The target of 7 per cent annual growth of GDP as stipulated in the IPoA critically depends on sustained increase in investment, which in turn depends on a higher rate of domestic savings.

In view of the above discussion, one may summarise the major findings:

- (i) Considering the period of the global financial and economic crisis as the benchmark, it may be observed that gross domestic savings (as a percentage of GDP) experienced a decline in 2008 and 2009 across the LDCs. The recovery of the domestic savings rate in 2011 was more significant in the case of Africa than of Asia. However, both regions are yet to recapture their respective pre-crisis benchmark. The overall trend in domestic savings indicates that its ratio has remained at the same level in the last decade (2000–10), although the indicator experienced a lot of volatility in the African LDCs.
- (ii) The national savings rate, in comparison with the domestic savings rate, demonstrated healthier trends in the LDCs in the decade starting 2000. However, this trend is more characteristic of the Asian LDCs that have benefited from continually robust inflows of remittances. By 2011, Asian and African LDCs had discernibly surpassed the decade's average national savings rate – this observation is again more true for the Asian LDCs than for the African LDCs. The conduct of the national (gross) savings rate in the LDCs in the recent past highlights the importance of income of the migrant workers of the LDCs in boosting savings rate, and consequently the share of investment in GDP and, therefore, GDP growth. IPoA has also identified the importance of remittances as a major source of finance for development. Issues related to remittance flow in LDCs have been discussed in Chapter 11 of this volume (Rahman and Sadique 2014).
- (iii) Revenue generation (as a percentage of GDP) in LDCs has stagnated throughout the last decade (2000–10). Relative volatility of tax collections in African LDCs has possibly been caused by the performance of the oil-exporting economies of

the group. In contrast, the efforts in tax collection in the Asian LDCs have been low (in comparison with their African counterparts) but steady – possibly due to the more pronounced existence of the manufacturing sector in their economies. This implies that the structural transformation of the LDC economies, guided by growth of the non-agricultural production capacity, would lead to a more predictable and resilient tax base. Success of this approach in the LDCs would also depend on whether their higher economic growth leads to creation of new productive capacity, employment and income. There would also be a need to revisit the tax policy, not only to create incentives and provide support to private investments, but also to ensure distributional justice.

- (iv) The findings regarding the changing, albeit slowly, composition of the revenue intake in the LDCs may be considered as partly encouraging. The data discussed earlier indicate that the share of international trade is declining in the LDCs over time, while the tax on goods and services has remained steady. What needs to be noted is that taxes on income, profit and capital gains are increasing slowly. This prospect of such gradual changes in the composition of taxes collected in the LDCs may be related to incipient structural changes of the LDC economies which would generate more income-wages and profits, as well as capital transactions (also the commodity price super-cycle in some countries). The commodity price super-cycle experienced by the LDCs in recent years may have also contributed to these emerging changes in composition of collected taxes.
- (v) Governments of the LDCs faced with challenges of generating more taxes in view of the fallouts of the global financial and economic crisis and incremental development needs of their countries are undertaking tax-related regulatory and institutional reforms. The results of such reforms remain mixed. However, one has to be mindful of the fact that tax mobilisation in open economies in the LDCs cannot be adequately carried out by the national governments. In other words, international co-operation, beyond capacity building in LDCs, is necessary for the domestic reforms to be a success. For example, promulgation of anti-money-laundering acts in the LDCs is not enough to prevent illegal outflow of financial resources. Collection of lost tax revenues for the LDC government is not possible if the overseas counterparts do not co-operate in bringing back those stolen moneys. Our study has reported secondary evidence regarding the high magnitude of financial haemorrhage systematically experienced by the LDCs. However, we could not locate ready reference to report what amount of stolen money has been returned by the banks in developed countries to the LDCs. Similarly, any relevant changes concerning disclosure practices and transparency by the relevant institutions in the developed countries are yet to be reported (particularly concerning the Financial Secrecy Act).
- (vi) The econometric exercise undertaken for the study has indicated that collection of taxes is positively associated with the growth of the non-agricultural sector, and has pointed to the need for structural transformation of the economy. The fact that per capita GDP turns out to be insignificant in both sets of regression

may be explained by the existent low-income levels in the LDCs. The degree of openness shows mixed results, pointing to the need for a balanced integration of the LDCs in the global economy. The fact that corruption does not show up as a significant factor raises the question of whether the constituents of this indicator are fully relevant for LDCs. In any case, the legal index variable has been found to be positive. This tentatively suggests that improved legal and regulatory frameworks and transparent and accountable institutions in the LDCs may help with tax collection. Such conclusions would match with IPoA's guidance regarding the need for improved governance in the LDCs.

- (vii) The commitments from the development partners to support LDCs in their efforts to improve tax collection remain inadequate. Their high emphasis on the need for the LDCs to collect more taxes is not often backed up with their support in this area. A somewhat dated figure for technical assistance provided by the development partners in the sector capacity building for revenue mobilisation amounted in 2009 to less than 0.1 per cent of their development assistance (OECD-DAC 2012).

In conclusion, it may be emphasised that mobilisation of domestic resources ultimately depends on the level of political commitment of the respective LDC. Notwithstanding the glimmer of progress, LDCs still have significant progress to make in the domestic revenue mobilisation front. The LDC leaders have to come to terms with the fact that the implementation of IPoA will remain illusive if significant progress is not achieved with respect to domestic resource mobilisation in their countries. What is at stake here is not only savings, investment and growth, but also, and more importantly, public welfare, poverty alleviation and distributive justice.

### **Annex 12.1 Actions by LDCs with indicators under Priority Area G on domestic resource mobilisation**

<b>Actions by LDCs</b>	<b>Proposed indicators</b>
Continue taking measures to create conditions for attracting and sustaining investments and mobilising domestic savings, both public and private	Gross savings rate (as % of GDP), World Development Indicator, World Bank Gross domestic savings (% of GDP), World Development Indicator, World Bank Global Findex, The Global Financial Inclusion Database, World Bank Financial Access Survey, International Monetary Fund
Promote a dynamic, inclusive, well-functioning and socially responsible private sector to contribute towards generating economic activities	Domestic credit to the private sector (as % of GDP), World Development Indicator, World Bank Time required to start a business (days), World Development Indicator, World Bank

*(continued)*

## Annex 12.1 Actions by LDCs with indicators under Priority Area G on domestic resource mobilisation (continued)

Actions by LDCs	Proposed indicators
Develop or strengthen, as appropriate, an inclusive, sound and well-regulated financial system to encourage domestic savings and investment, and to improve access of small businesses and the poor and disadvantaged, particularly women and young people, to financial services such as, but not limited to, micro-finance, including micro-credit and micro-insurance	Gross domestic savings rate (% of GDP), World Development Indicator, World Bank Global Findex, The Global Financial Inclusion Database, World Bank Financial Access Survey, International Monetary Fund World Bank Group Enterprise Surveys, World Bank and International Finance Corporation
Continue undertaking necessary fiscal reforms, as appropriate, to build effective, transparent, fair and accountable national tax and financial management systems in LDCs and identify and increase access to new revenue streams and, where appropriate, expand the tax bases	Tax/GDP ratio, taxes on exports (% of tax revenue), World Development Indicator, World Bank Taxes on goods and services rate (% of revenue), World Development Indicator, World Bank Taxes on international trade (% of revenue), World Development Indicator, World Bank
Implement measures to curtail illicit financial flows at all levels, enhance disclosure practices and promote transparency in financial information. In this regard, strengthening national and multinational efforts to address this issue is crucial, including support to LDCs and technical assistance to enhance their capacities. Additional measures should be implemented to prevent the transfer abroad of stolen assets and to assist in the recovery and return of such assets, in particular to their countries of origin, consistent with the United Nations Convention against Corruption	Corruption Perception Index, Transparency International Global Corruption Barometer, Transparency International Amount of illicit financial outflow from LDCs, Financial Integrity Report Amount of illicit transfer from LDCs recovered
Enhance disclosure practices and transparency in both source and destination countries and co-operate in efforts to reduce illicit financial flows, tax evasion and corruption	Corruption Perception Index, Transparency International Global Corruption Barometer, Transparency International

**Source:** Authors' estimation, based on United Nations (2011)

## Annex 12.2 Action by development partners with indicators under Priority Area G on domestic resource mobilisation

Actions by development partners	Proposed indicators
Support LDCs to build capacity in their efforts to raise domestic resources through revenue generation and financial sector reforms, in particular through the building of transparent, accountable and fair national tax and financial management systems	Aid flows to strengthen capacity of tax administrations in LDCs, OECD database
Support LDCs in the development of an efficient, effective, well-functioning and socially responsible private sector and productive capacity, and support LDCs to develop their capacity to benefit from private sector investments, including public–private partnership and venture capital operations, to reduce the resource gap, through the provision of financial, technical and institutional assistance	World Investment Report, UNCTAD Aid for Trade, OECD–DAC database
Eliminate safe havens that create incentives for transfer abroad of stolen assets and illicit financial flows	Various estimates, Global Financial Integrity Report; UNDP Report on Illicit Financial Flows
Assist in the recovery and return of stolen assets to the countries of origin, consistent with the United Nations Convention against Corruption	Implementation of money laundering acts Amount of illicit financial transfer from LDCs recovered
Enhance disclosure practices and transparency in both source and destination countries and co-operate in efforts to reduce illicit financial flows	Financial Secrecy Index, Tax Justice Network

**Source:** Authors' estimation, based on United Nations (2011)

## Annex 12.3 Gross domestic savings (% of GDP)

Year	LDCs	LDCs: Africa (n = 28)	LDCs: Asia (n = 7)	LDCs: islands (n = 3)
2000	13.31	12.06	17.70	-1.73
2001	12.07	11.32	16.47	-5.16
2002	11.90	11.08	16.08	-1.75
2003	12.09	13.60	14.39	4.33
2004	13.12	16.19	15.43	1.88
2005	12.97	19.38	15.08	-2.03
2006	13.76	24.70	14.19	-1.48
2007	13.40	24.36	12.31	3.13
2008	12.65	23.85	11.40	-20.09
2009	11.11	14.87	10.13	-21.10
2010	13.61	22.21	11.99	N/A
2011	13.13	22.00	11.39	N/A

**Source:** World Development Indicators, World Bank (2013)

**Annex 12.4 Gross national savings (% of GDP)**

Year	LDCs	LDCs: Africa ( <i>n</i> = 23)	LDCs: Asia ( <i>n</i> = 5)
2000	18.32	12.78	25.78
2001	17.42	12.15	24.20
2002	20.35	14.29	26.96
2003	21.02	15.17	26.87
2004	22.52	17.54	27.38
2005	22.36	18.42	27.73
2006	23.70	21.78	29.09
2007	24.42	21.68	28.28
2008	24.45	19.20	29.30
2009	23.22	13.03	29.10
2010	25.70	19.98	30.12
2011		20.42	32.96

**Note:** Island LDC data are not available.

**Source:** World Development Indicators, World Bank (2013)

**Annex 12.5 Tax revenue (% of GDP)**

Year	LDCs ( <i>n</i> = 16)	LDCs: Africa ( <i>n</i> = 11)	LDCs: Asia ( <i>n</i> = 5)
2000	10.03	10.42	8.83
2001	8.99	10.97	7.74
2002	9.21	11.27	7.84
2003	9.61	11.74	8.10
2004	10.23	12.94	8.20
2005	10.30	12.77	8.30
2006	10.63	13.24	8.35
2007	10.25	12.09	8.55
2008	11.36	13.44	9.33
2009	10.30	11.59	9.25
2010	11.02	12.57	9.82

**Note:** Island LDC data are not available.

**Source:** World Development Indicators, World Bank (2013)

**Annex 12.6 Tax on goods and services (% of GDP)**

Year	LDCs ( <i>n</i> = 16)	LDCs: Africa ( <i>n</i> = 11)	LDCs: Asia ( <i>n</i> = 5)
2000	2.63	2.51	3.05
2001	2.68	3.04	2.45
2002	2.90	3.30	2.64
2003	3.23	3.23	3.23
2004	3.36	3.90	2.95
2005	3.25	3.70	2.88
2006	3.35	3.60	3.13
2007	3.60	3.88	3.35
2008	3.80	4.13	3.48
2009	3.64	3.71	3.57
2010	3.93	4.06	3.84

**Note:** Island LDC data are not available.

**Source:** World Development Indicators, World Bank (2013)

**Annex 12.7 Tax on income, profits and capital gains (% of GDP)**

Year	LDCs ( <i>n</i> = 15)	LDCs: Africa ( <i>n</i> = 11)	LDCs: Asia ( <i>n</i> = 4)
2000	1.58	1.55	1.68
2001	1.58	2.24	1.17
2002	1.70	2.45	1.20
2003	1.58	2.22	1.12
2004	1.69	2.35	1.19
2005	1.68	2.28	1.19
2006	1.94	2.55	1.38
2007	2.13	2.59	1.72
2008	2.45	2.94	1.94
2009	2.27	2.53	2.05
2010	2.64	3.23	2.16

**Note:** Island LDC data are not available.

**Source:** World Development Indicators, World Bank (2013)

**Annex 12.8 Tax on international trade (% of GDP)**

Years	LDCs ( <i>n</i> = 15)	LDCs: Africa ( <i>n</i> = 11)	LDCs: Asia ( <i>n</i> = 4)
2000	4.00	4.46	2.59
2001	3.45	3.98	3.11
2002	3.33	3.59	3.16
2003	3.22	3.81	2.80
2004	3.60	4.06	3.25
2005	3.50	3.91	3.18
2006	3.53	4.14	2.98
2007	3.43	4.12	2.80
2008	3.50	4.08	2.90
2009	2.76	2.84	2.69
2010	2.92	3.05	2.81

**Note:** Island LDC data are not available.

**Source:** World Development Indicators, World Bank (2013)

**Annex 12.9 An investigation into the determinants of tax revenue generation in LDCs**

Taxes are levied on earnings and consumption expenditures within various sectors of the economy. Looking at the scenario from a macro perspective, it becomes necessary to understand the relationship between tax revenue generation and other macroeconomic factors within the economy. Structural and economic variables are very common in the tax literature, while political stability and other law and order variables are less common. Thus, the current econometric examination considers economic variables together with the political counterparts influencing the determination of tax revenue. The variables considered are per capita GDP, share of agriculture in GDP, the openness of the economy, external debt/gross national income (GNI) ratio, corruption and legal rights index.

The World Development Indicators (2012) data have been deployed for the present exercise. The period considered for the study is 2000 to 2010. Owing to paucity of data, the panel data has to be limited to 12 LDCs<sup>20</sup> (out of 49). The countries included are Democratic Republic of the Congo, Ethiopia, Lesotho, Madagascar, Mali, Sierra Leone, Uganda, Zambia, Bangladesh, Bhutan, Cambodia and Nepal.<sup>21</sup>

The following regression model is estimated to capture the determinants of tax revenue generation (summarising more detailed analysis in Bhattacharya and Akbar (forthcoming)):

$$\text{TXGDP}_{it} = \alpha_0 + \alpha_1 \text{PCGDP}_{it} + \alpha_2 \text{AGSGDP}_{it} + \alpha_3 \text{OPEN}_{it} + \alpha_4 \text{DEBTGNI}_{it} + \alpha_5 \text{CORR}_{it} + \alpha_6 \text{LEGAL}_{it} + \mu_{it} + \varepsilon_{it}$$

where

TXGDP = tax revenue (as a percentage of GDP), excluding grants

PCGDP = per capita GDP (current USD)

AGSGDP = share of agriculture in GDP

OPEN = ratio of sum of exports and imports to that of GDP/openness

DEBTGNI = external debt to GNI ratio

CORR = index of corruption, which ranges from 0 (high) to 10 (low)

LEGAL = strength of the legal rights index, ranging from 0 (low) to 10 (high)

and the  $\mu_{it}$  captures the between-entity component and the  $\varepsilon_{it}$  capturing the within-entity component.

With an aim to distinguish between the fixed effect (FE) and the random effect (RE) models, the Hausman test has been carried out. The Hausman test, with the null hypothesis that the unique errors ( $\mu_i$ ) are uncorrelated to the regressors (FE model) against the alternative hypothesis that the  $\mu_i$  are correlated (RE model), rejects the

**Table 12.B2 Regression results for the random effects estimation using generalised least square estimation (132 observations)**

Variable	Random effects estimation using GLS		
	Coefficient	z value	Significance
Per capita GDP	-0.0040149	-1.35	0.178
Agricultural share in GDP	-0.2940115	-1.63	0.103*
Openness	0.0930.27	1.39	0.165
External debt/GNI ratio	-0.0156104	-1.75	0.079*
Corruption	-0.6949943	-1.12	0.265
Legal rights index	0.6680196	2.47	0.013**
Constant	18.16008	2.17	0.030**

\* Represents significance at 10 per cent level; \*\* represents significance at 5 per cent level;

\*\*\* represents significance at 1 per cent level

null hypothesis of FE estimation and concludes that the RE model would be more appropriate for the present dataset (probability  $> \chi^2 = 0.0048$ ).

On a separate note, the Breusch–Pagan Lagrange multiplier (LM) test has also been carried out to choose between an RE model and an ordinary least squares (OLS) regression. Pooled OLS can be discarded, in general, as individual-specific or time-specific effects prevailing across the countries that might not be captured in the model specification. The LM rejects at the 1 per cent level the null hypothesis that the co-variance across the entities is zero (that is no significance across units) (with a  $p$ -value lower than 0.0001). The results indicate that the pooled OLS is not a good model for the data series and that the RE model is a better fit for the panel dataset under consideration.

Tables 12.B2 and 12.B3 present the regression results for the generalised least square (GLS) RE and maximum likelihood (ML) RE models. Brumm (2000, 2006, 2011) noted, regarding the implementation of ML when the proxies employed for different macroeconomic indicators are not perfectly accurate measures, that measurement errors arising as a result of this can be addressed with the aid of ML estimation. In addition, Olsson et al. (2000) generated results showing that ML, ‘compared to GLS under conditions of misspecification provides more realistic indexes of overall fit and less biased parameter values for paths that overlap with the true model.’

Results from the GLS estimation show that agricultural share in GDP (with an intuitively correct negative coefficient), external debt/GNI ratio (negative coefficient) and the legal rights index (positive coefficient) are significant determinants of tax revenue generation in the LDCs. The findings relating to agricultural share of GDP being negatively related to tax collection are similar to those of Piancastelli (2001) and Pessino and Fenochietto (2010). The external debt/GNI ratio is significant, with a negative sign. What is noteworthy is that the constant term is significant with a positive sign, implying that there exists the problem of omitted variable bias, that is certain other variables have not been included in the model, which affects tax revenue

**Table 12.B3 Regression results for the random effects estimation using maximum likelihood estimation**

Variable	Random effects estimation using ML		
	Coefficient	z value	Significance
Per capita GDP	-0.0069268	-1.48	0.139
Agricultural share in GDP	-0.3224347	-1.87	0.061*
Openness	0.1557941	2.71	0.007***
External debt/GNI ratio	-0.0239195	-1.06	0.290
Corruption	-0.59782	-0.39	0.696
Legal rights index	0.9097489	2.05	0.040**
Constant	14.65599	1.44	0.151

\* Represents significance at 10 per cent level; \*\* represents significance at 5 per cent level; \*\*\* represents significance at 1 per cent level

generation. Per capita GDP, openness and corruption are estimated as insignificant<sup>22</sup> in the GLS regression.

On the other hand, results of the ML regression demonstrate agricultural share in GDP (with the correct negative sign), openness (with a positive sign) and legal rights index (positive sign) to be significant. Openness has been found to be significant by other studies including Ghura (1998) and Pessino and Fenocheitto (2010). Variables which have been found to be insignificant in the ML estimation include per capita GDP,<sup>23</sup> external debt/GNI ratio and corruption. Unlike the GLS estimation, the constant is insignificant in the ML estimation. However, it should be noted that the variable per capita GDP enters both regressions with a negative sign. Corruption, found to be insignificant in the study, has been found to be an influential determinant of tax revenue by other authors such as Pessino and Fenocheitto (2010) and Ghura (1998). One of the reasons for corruption to be insignificant in the present study could be the source of data; it appears that the level of corruption is not captured completely and carefully in the dataset.

Nevertheless, each of the variables which have been found to be significant in the analysis has essential implications for the economy. Since the agricultural share of GDP is negatively associated with tax revenue generation, it would not be incorrect to state that there is need for structural transformation in the LDCs towards a non-agricultural economy where the ability of the tax authorities to generate a higher sum of tax would be optimised.

The degree of openness, indicating the level of integration of LDC economies in the global economy, also impacts on tax revenue generation. The low-income nations need to opt for higher levels of exports as well as greater access to imported capital machinery and intermediate inputs, as such interactions with the global markets evidently bring in more taxes for the nations. Additionally, the external debt/GNI ratio has been found to impact tax revenue. This would imply that a lower level of external debt would generate higher tax revenue. Although this finding is not intuitive, it cannot be dismissed altogether.

With regard to the legal rights index, it would be safe to state that the laws and regulations that exist with an institutional system help ensure property rights and an enabling environment for investment, leading to enhanced collection of tax revenue generation in the LDCs. The need to strengthen the legal procedures in the LDCs is well recognised; and an advanced and effective legal system not only help the tax authorities to raise more tax revenues, but also assist the taxpayers in addressing their tax-related complaints. Hence, institutional reforms are a necessary pre-requisite to pump up the figures of taxation in the LDCs.

## Notes

- 1 The chapter has greatly benefited from the extensive comments of referees, JP Stijns (OECD Development Centre) and Aniket Bhushan (The North–South Institute). The authors are also grateful to Shekhar Shah (NCAER), Dr Anna Batyra (LDC IV Monitor), Rorden Wilkinson (University of Manchester), Federico Bonaglia (OECD Development Centre) and Vinaye Ancharaz (ICTSD) for their helpful feedback on an earlier draft.

- 2 Domestic savings and per capita income in the LDCs tend to move in the same direction when the data are juxtaposed on one another (more later).
- 3 The LDC group is classified according to criteria based on income, human assets and economic vulnerability, which can be accessed at: [www.un.org/en/development/desa/policy/cdp/ldc/ldc\\_list.pdf](http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_list.pdf)  
The LDC group currently includes 33 African LDCs (including Haiti), eight Asian LDCs and eight island LDCs.
- 4 Data unavailability has constrained inclusion of a larger number of LDCs in the analysis presented.
- 5 Under Priority Area G, that is mobilising financial resources for development and capacity building (United Nations 2011).
- 6 WDI is the only data source that has been used for the analysis presented in the current study. This is because there are large variances between data sources. Moreover, definitions also seem to vary from one data source to another.
- 7 Correlation between gross domestic savings and GDP per capita has been found to be 0.96.
- 8 The government is expected to collect value-added tax (VAT) as custom duties on its own transactions in order to have a level playing field vis-à-vis the private sector. The government also pays income tax on its earnings from state-owned enterprises.
- 9 Regarding the impact of ODA on the growth of an economy, Burnside and Dollar (2000) argue that the recipients of ODA are benefited only with the pursuance of excellent policies and that aid as such has no impact on growth. Others (Hansen and Tarp 2000; Easterly et al. 2004) have negated that proposition, and a more recent studies by Rajan and Subramanian (2008) concludes that it is very difficult to discern a systematic effect of aid on growth. Replicating the results of the previous study, Arndt et al. (2009) state that aid has a statistically significant positive relationship with growth in the long run and stimulates investment despite part of the ODA often being dedicated to consumption. Moreover, Bhushan and Samy (2012) focused on the extent to which taxation is affected by aid in the sub-Saharan countries over the time period 1972–2008. Using up-to-date data and controlling for different determinants of taxation, the authors conclude that ‘aid has had no significant impact on taxation generally or in sub-Saharan Africa particularly’. The authors go one step further in recommending that foreign aid or external grants could be better targeted in order to increase domestic resource potential in the region.
- 10 Gross domestic savings are calculated as GDP less final consumption expenditure (total consumption).
- 11 Gross savings are calculated as gross national income less total consumption, plus net transfers.
- 12 Year-wise disaggregated data on domestic and national savings rates are presented in Annexes 12.3 and 12.4.
- 13 The gross domestic savings rate of the oil-exporting African LDCs (Angola, Chad, Equatorial Guinea and Sudan) amounts to a staggering 32.8 per cent, while that of the non-oil-exporting African LDCs stands at 7.9 per cent.
- 14 For the set of countries considered in the analysis, the average rate of economic growth of the Asian LDCs displays more resilience than that of their African counterparts (in line with the observation of the domestic savings rates).
- 15 Chapter 11 of this book, by Rahman and Sadique (2014), discusses remittance of the LDCs.
- 16 The tax ratios – that is overall tax revenue, tax on goods and services, tax on income, profits and capital gains and tax on international trade as percentages of GDP – represent realised tax percentages (and corresponding figures), but not ‘tax efforts’. Tax effort is an entirely different measure that tries to incorporate the ability to collect taxes, given the level of economic performance of that country.
- 17 Data unavailability did not allow a more robust regional level disaggregated analysis.
- 18 None of the oil-exporting African LDCs is included in the sample (the same goes for the Asian LDCs).
- 19 Mineral-exporting African LDCs include Burundi, Central African Republic, Democratic Republic of the Congo, Guinea, Mali, Mauritania, Mozambique, Niger, Sierra Leone and Zambia.
- 20 As mentioned earlier, data unavailability precluded having a large sample.
- 21 The sample represents approximately 40 per cent of the LDCs (considering GDP as the criteria).
- 22 It is to be noted that lack of data or multicollinearity could be one of the causes for the insignificance of the assumed determinants.

- 23 Lack of significance of per capita GDP may be contradictory to other studies suggesting significance for the variable. It should again be clarified that this might be because of the sample itself, which has been constrained due to data unavailability.

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